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National Spent Nuclear Fuel Program Quality Assurance Program Annual Trending Report

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EXECUTIVE SUMMARY

This report documents the calendar year 2003 analysis of Quality Assurance (QA) deficiencies to identify areas for improvement for the National Spent Nuclear Fuel Program (NSNFP). Deficiencies are identified as Deficiency Reports (DRs) and Corrective Action Requests (CARs). DRs/CARs, which are tracked in the NSNFP QA Corrective Action Tracking Trending System database, were categorized into the following three groups for analysis:

- NSNFP
- U.S. Department of Energy Spent Nuclear Fuel (SNF) Sites
- NSNFP suppliers.

NSNFP

The evaluation of data shows a steady decline in number of deficiencies from 33 in 1999, to 30 in 2000, to 20 in 2001, to 15 in 2002, to 11 (10 DRs and 1 Condition Corrected during Audit [CDA]) in 2003. In addition, the NSNFP organization is tracking one DR that was assigned to the INEEL BBWI supplier as the result of a supplier surveillance in 2003. The Pareto analysis showed that 8 of 11 DRs in 2003 (72%) were attributed to Personnel Errors and Procedures. There are no significant increasing trends. The timeliness of DR closure continued to improve. Four DRs remained open at the end of 2003.

Areas for Improvement

- The amount of NSNFP work involving government and private sector suppliers is increasing. The associated controls for procurement of services have been effectively applied in most cases. There remains some opportunities for improvement regarding attention to detail in the task management agreement preparation and issuance, clarification of work activities, passing down requirements to the supplier, and verification of supplier personnel qualifications.
- There has been considerable improvement in reducing the number of problems related to the improper use of procedures or failure to use an approved procedure. The rate of occurrence in this area decreased for several years, but it leveled out in 2003. Further attention may be needed. An opportunity for improvement exists to evaluate the effectiveness of implementing procedures, including appropriate level of detail, ease of use, to identify and resolve any inadequacies, and to ensure procedural compliance.

Hanford SNF

During 2003, two assessments were performed at Hanford. The results identified three CDAs, six DRs, and two CARs. The two significant conditions adverse to quality 03-RLSNF-AU-001-CAR-001 and –002 describe problems with identification and control of quality records. The Pareto analysis showed that all 11 deficiencies in 2003 were attributed to Personnel Errors and Procedures. There are no significant increasing trends. The timeliness of DR closure continued to improve. At the time of this trending report, the verification of closure for two CARs and three DRs was scheduled for March 2004. It is expected that the corrective action process will be sufficient to address the condition.

Area for Improvement

The number of problems related to using the nonconformance reporting process has increased in 2002 and 2003. Previous corrective actions have included procedure revisions to identify and invoke the nonconformance reporting process and associated *Quality Assurance Requirements and Description* requirements. Further attention should be given to ensure the effectiveness of the nonconformance reporting process.

Idaho National Engineering and Environmental Laboratory SNF

During 2003, the annual evaluation of the Idaho National Engineering and Environmental Laboratory (INEEL) SNF program was documented in the audit report 03-INEEL-AU-001. The INEEL has demonstrated overall improved performance under the current program, from 17 DRs issued in 2002 to 3 DRs in 2003. Two of the three DRs were related to problems with personnel training.

Area for Improvement
The number of problems related to inadequate training increased to two DRs in 2003 compared to zero DRs from 1999 through 2002. The corrective actions to address these conditions include document revisions, clarification of job requirements, development of training plans, and verification of training completed. The corrective actions were in various stages of completion. There remains some opportunity for improvement to ensure effectiveness of personnel training.

Oak Ridge National Laboratory SNF

During 2003, the annual NSNFP QA audit of the Oak Ridge Bechtel Jacobs SNF QA Program determined that the program was effectively implemented. Oak Ridge National Laboratory has transferred all its SNF and associated records to the INEEL. Consequently, there will be no further NSNFP annual audits required of this program.

No DR/CARs were issued in 2002 or 2003. The charts, tables, and analyses presented in the 2002 trend report did not change and remain current and acceptable. The results are not repeated in this 2003 trend report.

Savannah River Site SNF

In 2002, the Melt and Dilute Project was demobilized and qualification of the Savannah River Site SNF QA program was suspended. The Savannah River charts, tables, and analyses associated with those data are no longer applicable for this 2003 trend report.

During 2003, the NSNFP QA staff corresponded with the SRS personnel to discuss an action plan in the development of an acceptable revised SRS SNF QA program for the storage of SRS SNF and maintenance of the associated records. The draft Quality Program Plan was still in progress at the close of this reporting period.

NSNFP Suppliers

The only active government sector supplier to the NSNFP for 2003 is INEEL Bechtel BWXT Idaho, LLC (BBWI). Qualification of the other suppliers was suspended after completion of work. There were no private sector suppliers used by the NSNFP during 2003.

During 2003, NSNFP QA staff performed a supplier assessment of INEEL BBWI that resulted in one DR that is discussed in this report. The analysis and trends for the other suppliers did not change from the results presented in the previous 2002 trend report. The results remain current and acceptable and are not repeated in this 2003 trend report.

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National Spent Nuclear Fuel Program
Quality Assurance Program Annual Trending Report

1. INTRODUCTION

1.1 Purpose and Scope

This report documents the analysis of Quality Assurance (QA) deficiencies for the identification of trends adverse to quality in the National Spent Nuclear Fuel Program (NSNFP). The analysis performed meets the requirements set forth in Section 16.2.6, "Quality Trending" of DOE/RW-0333P, *Quality Assurance Requirements and Description* (QARD). The trend analysis was performed in accordance with NSNFP Quality Assurance Staff (QAS) Procedure QAS 16.03. The data analyzed are categorized into three groups: NSNFP, spent nuclear fuel (SNF) sites, and NSNFP suppliers. Results are presented in the following sections.

1.2 Description of Trending Process and Methodology

Deficiencies are categorized as conditions adverse to quality and significant conditions adverse to quality, and are documented as a Deficiency Report (DR) or Corrective Action Request (CAR), respectively. DRs/CARs are assigned subject codes and direct cause codes. Significant conditions adverse to quality that are documented as CARs are additionally assigned a root cause code, based on formal root cause analysis. Codes are recorded in the NSNFP QA Corrective Action Tracking Trending System (CATTS) to facilitate analysis. The codes are sorted into three groups, the NSNFP, SNF sites, and NSNFP suppliers to facilitate analysis by calendar year. Other sources of information are also used for analysis to identify trends adverse to quality. Previous NSNFP QA Support trend analysis reports are used in analyses.

Subject codes are assigned to the DR/CAR that reflects the primary QARD requirement that is violated. Direct cause codes are the apparent cause of a condition adverse to quality. Root cause codes reflect the identified root cause that results from formal analysis. The first two codes, subject and direct cause, are subjective and are validated by review of the DRs/CARs during analysis. Root cause codes reflect the results of formal analysis and do not require validation.

Subject codes, direct cause codes, and root cause codes are used to compare the frequency of occurrence of like deficiencies. Codes are sorted by organization for each calendar year to identify an increase in the frequency of occurrence over time. Where an increase in frequency is identified, each individual DR/CAR is evaluated to validate that common issues are identified and determine if an adverse trend is present.

Subject codes and direct cause codes are evaluated by Pareto analysis for each organization within a respective group. This analysis identifies the most frequent occurrence of deficiency codes. DRs/CARs are evaluated for the highest occurrence of a code to validate that common issues are identified. The highest occurrence of a code that reflects a common issue may represent an indicator of an adverse trend.

The DRs/CARs are evaluated for timeliness of corrective action, including (as applicable) a discussion of ineffective or overdue corrective actions for each organization. The duration of closed and open DRs/CARs are compared by calendar year to determine if an adverse trend in timeliness of corrective action is present.

Potential adverse trends are evaluated against the criteria for trends adverse to quality in procedure QAS 16.03 "Quality Assurance Trending." If the analysis finds the trend to be adverse to quality, then a

review of open and recently completed correction actions is performed to determine whether mitigating actions are in process that may resolve the adverse trend. If there are no mitigating actions, then an evaluation of the trend for a significant condition adverse to quality is performed to determine whether a CAR will be issued to the responsible organization.

The discussion for each organization includes a description of documentation used as a part of the analysis, evaluations of selected subject and direct cause codes, and conclusions regarding trends adverse to quality. Attachment A provides tables that summarize the subject codes, direct cause codes, and root cause codes. In addition, Attachment A presents the figures used in the Pareto analyses to identify the most frequent occurrence of subject and direct cause codes. Attachment B shows figures for the timeliness of DR closure through December 31, 2003. Attachment C lists the DRs, CARs, and Conditions Corrected during Audit (CDAs) that were analyzed for this trending report. Attachment D lists the codes used for both direct and root causes. Administrative controls that may address adverse trends, lack of timely corrective action, or indicators for adverse trends are discussed. Conclusions that require action by management are identified under the Executive Summary and Results.

2. ANALYSIS

2.1 National Spent Nuclear Fuel Program

The NSNFP is composed of a QA Support organization and a Project Support Organization (PSO). DRs are assigned to each organization recognizing unique responsibilities. However, the analysis evaluated the data as representative of one organization.

During 2003, 11 DRs were attributed to the NSNFP PSO and QA organization with responsibility for closure. In addition, the NSNFP group tracks DR number 03-SUPP-S-001-DR-001 for which the NSNFP has identified the Idaho National Engineering and Environmental Laboratory (INEEL) Bechtel BWXT Idaho, LLC (BBWI) supplier as the responsible organization for closure.

2.1.1 Subject Codes

Attachment A sorts the subject codes for the NSNFP by calendar year. The evaluation of subject codes for the NSNFP indicates an overall improvement in QA program implementation from 1999 through 2003. The distribution of subject codes presented in the Pareto figure shows Procurement was the most frequent occurrence during 2003 (45%). The deficiency reports attributed to procurement activities were reviewed for possible adverse trends. The Subject Code D.01, Procurement Document Control, showed a large increase during 2003 and is evaluated below.

Subject Code D.01, Procurement Document Control
The frequency of occurrence of deficiencies under Subject Code D.01 increased from zero counts in 2001 and 2002 to three DRs in 2003. The corrective actions for the three DRs have been approved by the NSNFP QA Program Manager, and work was in progress at the time of this trending report. The DRs are summarized here for information.

- Deficiency Report 03-NSNFP-10/09-DR-001 identified a condition where NSNFP procurement documentation did not pass down QARD requirements for personnel education and experience verification to the INEEL BBWI supplier. The condition was mitigated by the previous verification of key personnel. The approved corrective actions include verification for all project participants and revision of the task management agreement (TMA).
- Deficiency Report 03-NSNFP-10/22-DR-001 identified a condition where INEEL procedure MCP-9359, Rev. 2, “Specifications,” was in use without prior NSNFP approval. The extent of

impact was mitigated because the NSNFP has previously reviewed this procedure during other evaluations and found it acceptable for its intended use. The approved corrective actions include maintaining a formal list of approved procedures used by the project and revising the TMA.

- Deficiency Report 04-NSNFP-S-001-DR-001 identified a condition where a TMA was not issued for NSNFP weld development work performed by the INEEL Management and Operations contractor (BBWI). The approved corrective action includes issuance of the TMA for the full scope of work.

Evaluation of the DRs under Subject Code D.01 indicates problems with the implementation of the TMA process and attention to detail. The resolution of this condition is still in progress. The NSNFP office and QA staff have reviewed the evaluation for extent of condition for these DRs. The approved corrective actions are being worked, individually and in combination. Completion of the corrective actions will be verified by NSNFP QA staff prior to closing the DRs. It is expected that the corrective action process will be sufficient to address the condition.

Area for Improvement

The amount of NSNFP work involving government and private sector suppliers is increasing. The associated controls for procurement of services have been effectively applied in most cases. There remains some opportunities for improvement regarding attention to detail in the TMA preparation and issuance, clarification of work activities, passing down requirements to the supplier, and verification of supplier personnel qualifications.

2.1.2 Direct Cause Codes

Attachment A sorts the direct cause codes for the NSNFP by calendar year. The evaluation indicated an overall improvement in QA program implementation from 1999 through 2003. The direct causes were widely distributed over several categories such that there were no increasing trends. The Pareto distribution showed Personnel Error-Human Performance (45%) and Procedures (27%) were the most frequent causes of NSNFP deficiencies during 2003. The DRs attributed to personnel error were reviewed for possible adverse trends. The Direct Cause Code 02Ad, Personnel Error—Procedure Not Used or Used Improperly, has been an area of attention in past trending reports. During 2003, 2 DRs were assigned this direct cause and are evaluated below.

Direct Cause Code 02Ad, Personnel Error - Procedure Not Used or Used Improperly

- Deficiency Report 04-NSNFP-S-001-DR-001 identified a condition where a TMA was not issued for NSNFP weld development work performed by the INEEL Management and Operations contractor (BBWI). The approved corrective action includes issuance of the TMA for the full scope of work.
- Deficiency Report 03-NSNFP-07/09-DR-001 identified problems of traceability between the Source Term Report REP-078 and the Spent Fuel Database. The approved corrective actions include evaluation for extent of impact, revisions of implementing procedures, personnel training and management oversight. Surveillance report 04-NSNF-S-002 observed that most of the corrective actions were completed in December 2003. A separate surveillance is identified on the 2004 NSNFP QA assessment schedule to verify corrective action completion and closure of this DR.

Evaluation

Evaluation of Direct Cause Code 02Ad showed downward trends (13 in 1999, to 9 in 2000, to 10 in 2001, to 2 in 2002) and leveled out with two DRs in 2003. The two DRs involve different work activities and do not share a common problem. Completion of the corrective actions will be verified by NSNFP QA

staff prior to closing the DRs. It is expected that the corrective action process will be sufficient to address the condition.

Area for Improvement
There has been considerable improvement in reducing the number of problems related to the improper use of procedures or failure to use an approved procedure. The rate of occurrence in this area decreased for several years, but it leveled out in 2003. Further attention may be needed. An opportunity for improvement exists to evaluate the effectiveness of implementing procedures, including appropriate level of detail and ease of use; to identify and resolve any inadequacies; and to ensure procedural compliance.

2.1.3 Root Cause Codes

The evaluation of root cause codes for the NSNFP indicates an overall improvement in QA program implementation. There were no significant conditions adverse to quality identified during 2003. No adverse trends are identified from this analysis. No further action is required as a result of this evaluation.

2.2 Spent Nuclear Fuel Sites

Spent Nuclear Fuel sites are composed of Hanford, INEEL, Oak Ridge National Laboratory (ORNL), and the Savannah River Site (SRS). The analysis is performed for the individual sites. The basis for the analysis is limited to the results of audits and surveillances performed by NSNFP QA.

2.2.1 Hanford

The evaluation of DRs for the Hanford SNF program showed changes from 22 in 1999, to 1 in 2000, to 4 in 2001, to 21 in 2002, to 11 in 2003. During 2003 two assessments identified three CDAs, six DRs, and two CARs. Attachment A sorts the subject codes for Hanford by calendar year. The Pareto distribution of subject codes showed Nonconformance (27%) and QA program (18%) were the most frequent occurrences during 2003. The direct causes for these deficiencies were Inadequate Procedures (55%) and Personnel Errors (45%). The DRs were reviewed for possible adverse trends. The evaluation showed increasing trends in the areas of nonconformances and quality records and are described below.

Subject Code B01, QA Program Documents
Deficiency Reports 03-RLSNF-S-001-CAR-001 and –002 describe significant conditions adverse to quality that are related to QA Program Documents. CAR-001 identified a non-OCRWM qualified subcontractor was used for the storage of SNF QA records. CAR-002 identified the lack of definition for a complete QA record package. The root cause analyses were performed for both CARs and identified the root cause as management problem (policy not adequately defined, disseminated, or enforced). The approved corrective actions include halting the transfer of records, identification of records, qualification of personnel, controls for records retrievability.

Evaluation
At the time of this trending report, the verification of closure for the two CARs and three DRs was scheduled for March 2004. It is expected that the corrective action process will be sufficient to address the deficient conditions for quality records and implementation of the nonconformance reporting process. Because the verification of corrective action and DR/CAR closure is still in progress, no further action is required as a result of this evaluation.

Subject Code O1, Nonconformance
The number of DRs associated with use of the nonconformance reporting process increased from one in 1999, to two in 2002, to three in 2003. The DRs were reviewed to determine if the trend was a significant

condition adverse to quality. The analysis showed that two conditions had minor impact and were corrected during the assessment. Two other conditions involved revising procedures to incorporate nonconformance reporting requirements. There are two open DRs (03-RLSNF-AU-001-DR-002 and –003) that involve quarterly trend reporting of nonconformances and screening OCRWM-related nonconformances for corrective action. These two DRs are scheduled for verification of corrective action closure in March 2004.

Area for Improvement
The number of problems related to using the nonconformance reporting process has increased in 2002 and 2003. Previous corrective actions have included procedure revisions to identify and invoke the nonconformance reporting process and associated QARD requirements. Further attention should be given to ensure the effectiveness of the nonconformance reporting process.

2.2.2 INEEL

The evaluation of DRs for the INEEL SNF program showed changes from 25 CAR/DRs in 1998, 1 in 1999, 0 in 2000, 1 in 2001, to 17 in 2002, to 3 in 2003. The frequency of DRs correlates with the site qualification audits performed in 1998 and 2002. The 2003 audit identified three DRs.

Attachment A sorts the subject and cause codes for the INEEL by calendar year. Two of the three DRs from 2003 were assigned Subject Code B12, Personnel Qualification, and a direct cause code of Inadequate Training. The two DRs are evaluated below.

Subject Code B12, Personnel Qualification.
Deficiency Report 03-INEEL-AU-001-DR-001 describes a condition where personnel were assigned to perform work but had not been trained or qualified in accordance with their work functions and responsibilities. The management plan and training plan was revised to ensure that the personnel received the required training and indoctrination.

Deficiency Report 03-INEEL-AU-001-DR-003 described a lack of specific training for the initial screening and classification of issues entered into the Issue Communication and Resolution Environment (ICARE) system. Corrective action development and approval was still in progress. No further action is required as a result of this evaluation.

Area for Improvement
The number of problems related to inadequate training increased to two DRs in 2003 compared to zero DRs from 1999 through 2002. The corrective actions to address these conditions include document revisions, clarification of job requirements, development of training plans, and verification of training completed. The corrective actions were in various stages of completion. There remains some opportunity for improvement to ensure the effectiveness of personnel training.

2.2.3 ORNL

During 2003, the annual NSNFP QA audit of the Oak Ridge Bechtel Jacobs SNF QA Program determined that the program was effectively implemented. ORNL has transferred all its SNF and associated records to the INEEL. Consequently, there will be no further NSNFP annual audits required of this program.

No DR/CARs were issued in 2002 or 2003. The charts, tables, and analyses presented in the 2002 trend report did not change and remain current and acceptable. The results are not repeated in this 2003 trend report.

2.2.4 SRS

In 2002, the Melt and Dilute Project was demobilized and qualification of the SRS SNF QA program was suspended. The Savannah River charts, tables, and analyses associated with those data are no longer applicable for this 2003 trend report.

During 2003, the NSNFP QA staff corresponded with the SRS personnel to discuss an action plan in the development of an acceptable revised SRS SNF QA program for the storage of SRS SNF and maintenance of the associated records. The draft Quality Program Plan (QPP) was still in progress at the close of this reporting period.

2.3 National Spent Nuclear Fuel Program Suppliers

The only active government sector supplier to the NSNFP for 2003 was INEEL BBWI. All services for the remaining suppliers have been terminated. The supplier qualifications were suspended after completion of work. There were no private sector suppliers used by the NSNFP during 2003. The DRs for all suppliers are closed, except one as noted. The charts, tables, and analyses presented in the 2002 trend report did not change and remain current and acceptable. The supplier results are not repeated in this 2003 trend report.

INEEL BBWI

The government sector services provided by INEEL BBWI to the NSNFP are controlled by various TMAs. During 2003, NSNFP QA staff performed a supplier assessment of INEEL BBWI, resulting in one DR (03-SUPP-S-001-DR-001) related to personnel training. The approved corrective actions include development of a project execution plan to identify training requirements and ensure completion by personnel assigned to the project. Corrective actions were in progress at the time of this report and will be verified by NSNFP QA staff prior to closing the DR. No further action is required as a result of this evaluation.

3. CORRECTIVE ACTION TIMELINESS

The DRs/CARs were evaluated for timeliness of corrective action. Data for individual organizations, SNF sites, and suppliers were evaluated by calendar year to determine if an adverse trend in timeliness of corrective action is present. The CDAs were not included in the computed average, because the CDAs are singular incidents that are closed during the assessment, resulting in zero days for closure. The open CAR/DRs were included in the computed average using the number of days open as of December 31, 2003.

Overall performance of all the SNF programs has improved in providing timely corrective action. The NSNFP QA Support organization tracks and reports on a biweekly basis a summary report of all open DRs. During calendar year 2003, the number and average duration that DRs remain open has declined.

Attachment B presents figures for showing the timeliness of DR closure as of December 31, 2003. The open reports are also included (black).

3.1 National Spent Nuclear Fuel Program

The NSNFP is composed by of the PSO and QA Support organizations. The two groups work to the same program management procedures. However, data were sorted to evaluate the individual organization

duration. The figures in Attachment B show both the NSNFP PSO and QA Support organizations have improved their timeliness in reducing the average number of days to close DRs.

The average closure time for PSO reports declined from 358 days in 1999, to 347 in 2000, to 256 in 2001 to 164 in 2002, to 51 in 2003. Note that average for 2003 was based on six closed DRs and will increase when the remaining five DRs are closed.

The average closure time for QA Support reports showed an overall decline from 261 days in 1999, rising slightly to 294 days in 2000, dropping back to 174 days in 2001, and continuing a downward trend to an average of 117 days in 2002. There were no DRs issued in 2003. The evaluation of data for each group shows a decline in trend in the duration that a DR remains open.

3.2 Spent Nuclear Fuel Sites

The SNF sites are Hanford, INEEL, ORNL, and SRS. Data were sorted to evaluate the timeliness of DR closure by individual organization. The figures in Attachment B show declining trends, indicating improvement.

3.2.1 Hanford

The average closure time showed significant improvement from 407 days in 1999 to 180 days in 2002. Evaluation of the data for 2003 showed three CDAs, six DRs, and two CARs were identified within the Hanford SNF program. There were three DRs and two CARs open as of December 31, 2002. At the time of this trending report, the verification of closure for these DR/CARs was scheduled for March 2004. No further action for Hanford is required as a result of this evaluation.

3.2.2 INEEL

The average closure time showed significant improvement. The first QA program qualification audit was performed in 1998. The results identified 25 findings (14 CARs and 11 DRs) that took an average of 766 days to close. The 2002 qualification audit of the INEEL nonlicensed SNF QA program identified 17 findings (11 DRs and 6 CDAs) and shows the average time the deficiency remains open has been reduced to 181 days. During 2003, three DRs were issued, and two of them were closed. Corrective actions for the remaining DR were in progress. The anticipated closure date has been extended because of the recent INEEL reorganization. There is no indication of a trend adverse to quality. No further action for the INEEL is required as a result of this evaluation.

Area for Improvement
The number of problems related to inadequate training increased to two DRs in 2003 compared to zero DRs from 1999 through 2002. The corrective actions to address these conditions include document revisions, clarification of job requirements, development of training plans, and verification of training completed. The corrective actions were in various stages of completion. There remains some opportunity for improvement to ensure the effectiveness of personnel training.

3.2.3 ORNL

No DR/CARs were issued in 2002 or 2003. The charts, tables, and analyses presented in the 2002 trend report did not change and remain current and acceptable. The timeliness results are not repeated in this 2003 trend report.

3.2.4 SRS

No DR/CARs were issued in 2002 or 2003. The charts, tables, and analyses presented in the 2002 trend report did not change and remain current and acceptable. The timeliness results are not repeated in this 2003 trend report.

3.3 National Spent Nuclear Fuel Program Suppliers

The only active government sector supplier to the NSNFP for 2003 is INEEL BBWI. During 2003, NSNFP QA staff performed a supplier assessment of INEEL BBWI, resulting in one DR related to personnel training. Corrective actions were approved, and work was in progress at the time of this report. Trending and timeliness data are not available. There were no private sector suppliers used by the NSNFP during 2003.

For the other NSNFP suppliers, the services were terminated and qualification suspended after completion of work. The DRs for all suppliers are closed, except the one noted. The analysis and trends did not change from the results presented in the previous 2002 trend report, which showed the average timeliness of DR closure was satisfactory.

4. RESULTS

Data for the NSNFP, individual SNF sites, and NSNFP suppliers were analyzed to identify organization-specific adverse trends. Subject codes, direct cause codes, root cause codes, and timeliness of corrective action completion were evaluated. The analysis of increases in frequency of codes, highest frequency of codes, and corrective action duration resulted in the identification of potential adverse trends in the NSNFP PSO and QA Support organizations. The analysis identified the following results.

NSNFP

The evaluation of data shows a steady decline in number of deficiencies from 33 in 1999, to 30 in 2000, to 20 in 2001, to 15 in 2002, to 11 (10 DRs and 1 CDA) in 2003. In addition, the NSNFP organization is tracking one DR that was assigned to the INEEL BBWI supplier as the result of a supplier surveillance in 2003. The Pareto analysis showed that 8 of 11 DRs in 2003 (72%) were attributed to Personnel Errors and Procedures. There are no significant increasing trends. The timeliness of DR closure continued to improve. Four DRs remained open at the end of 2003.

Areas for Improvement

- The amount of NSNFP work involving government and private sector suppliers is increasing. The associated controls for procurement of services have been effectively applied in most cases. There remains some opportunities for improvement regarding attention to detail in the TMA preparation and issuance, clarification of work activities, passing down requirements to the supplier, and verification of supplier personnel qualifications.
- There has been considerable improvement in reducing the number of problems related to the improper use of procedures or failure to use an approved procedure. The rate of occurrence in this area decreased for several years, but it leveled out in 2003. Further attention may be needed. An opportunity for improvement exists to evaluate the effectiveness of implementing procedures, including appropriate level of detail and ease of use; to identify and resolve any inadequacies; and to ensure procedural compliance.

Hanford SNF

During 2003, two assessments were performed at Hanford. The results identified three CDAs, six DRs, and two CARs. The two significant conditions adverse to quality 03-RLSNF-AU-001-CAR-001 and –002 describe problems with identification and control of quality records. The Pareto analysis showed that all 11 deficiencies in 2003 were attributed to Personnel Errors and Procedures. There are no significant increasing trends. The timeliness of DR closure continued to improve. At the time of this trending report, the verification of closure for the two CARs and three DRs was scheduled for March 2004. It is expected that the corrective action process will be sufficient to address the condition.

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The number of problems related to using the nonconformance reporting process has increased in 2002 and 2003. Previous corrective actions have included procedure revisions to identify and invoke the nonconformance reporting process and associated QARD requirements. Further attention should be given to ensure the effectiveness of the nonconformance reporting process.

INEEL SNF

During 2003, the annual evaluation of the INEEL SNF program was documented in the audit report 03-INEEL-AU-001. The INEEL has demonstrated overall improved performance under the current program, from 17 DRs issued in 2002 to 3 DRs in 2003. Two of the three DRs were related to problems with personnel training.

Area for Improvement
The number of problems related to inadequate training increased to two DRs in 2003 compared to zero DRs from 1999 through 2002. The corrective actions to address these conditions include document revisions, clarification of job requirements, development of training plans, and verification of training completed. The corrective actions were in various stages of completion. There remains some opportunity for improvement to ensure the effectiveness of personnel training.

ORNL SNF

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SRS SNF

In 2002, the Melt and Dilute Project was demobilized and qualification of the SRS SNF QA program was suspended. The Savannah River charts, tables, and analyses associated with those data are no longer applicable for this 2003 trend report.

During 2003, the NSNFP QA staff corresponded with the SRS personnel to discuss an action plan in the development of an acceptable revised SRS SNF QA program for the storage of SRS SNF and maintenance of the associated records. The draft QPP was still in progress at the close of this reporting period.

National Spent Nuclear Fuel Program Suppliers

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5. REFERENCES

1. National Spent Nuclear Fuel Quality Program Annual Trending Report, January–December 2000.

2. National Spent Nuclear Fuel Quality Program Annual Trending Report, January–December 2001.

3. National Spent Nuclear Fuel Quality Program Annual Trending Report, January–December 2002.

Attachment A

Deficiency Reports Sorted by Subject and Cause Codes

Attachment A

Deficiency Reports Sorted by Subject and Cause Codes

NSNFP (PSO and QAS) Subject Code

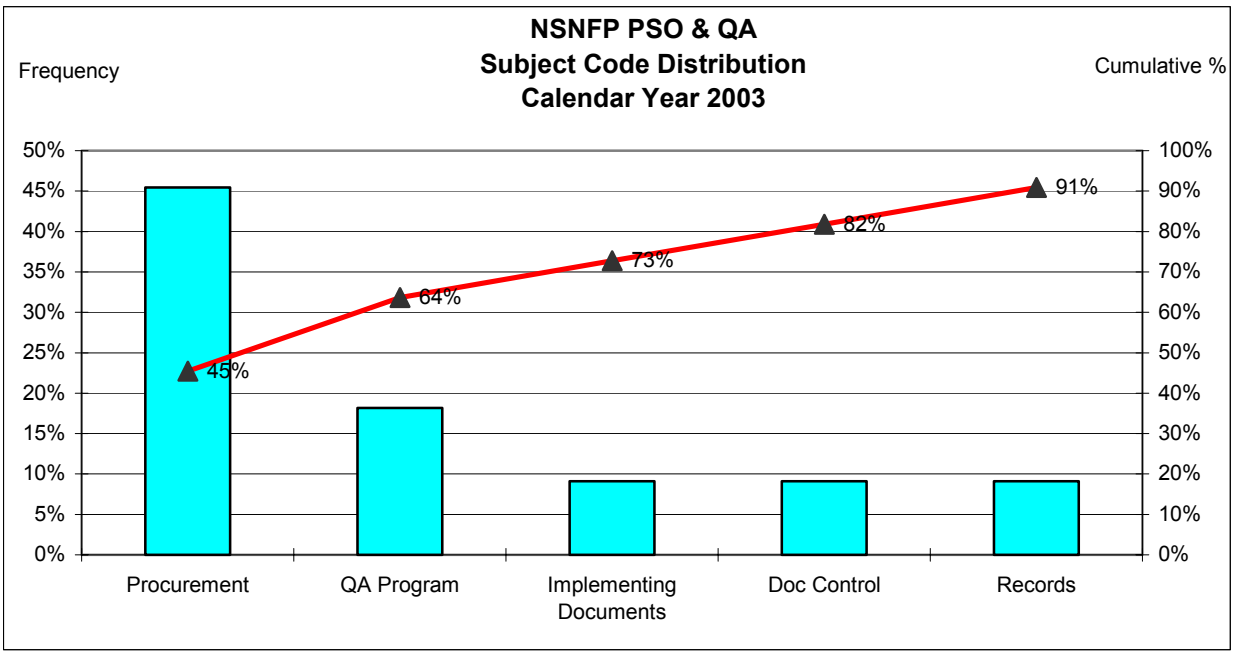
Subject Code	Title	CY99	CY00	CY01	CY02	CY03
A	Organization	1	2	2	2	0
B	QA Program	7	7	6	3	2
C	Design	3	1	0	0	1
D	Procurement	4	3	0	0	5
E	Implementing Documents	9	3	4	1	1
F	Doc Control	1	2	2	1	1
G	Purchased items	1	0	1	3	0
J	Inspection		1			
K	Test				1	
P	Corrective Action	1	2	1	2	0
Q	Records	2	3	3	0	1
R	Audits	1	2	1	0	0
S	Software	2	4	0	0	0
U	Scientific investigation				1	
V	Electronic Data Mgt	1			1	
	TOTAL	**33**	**30**	**20**	**15**	**11**

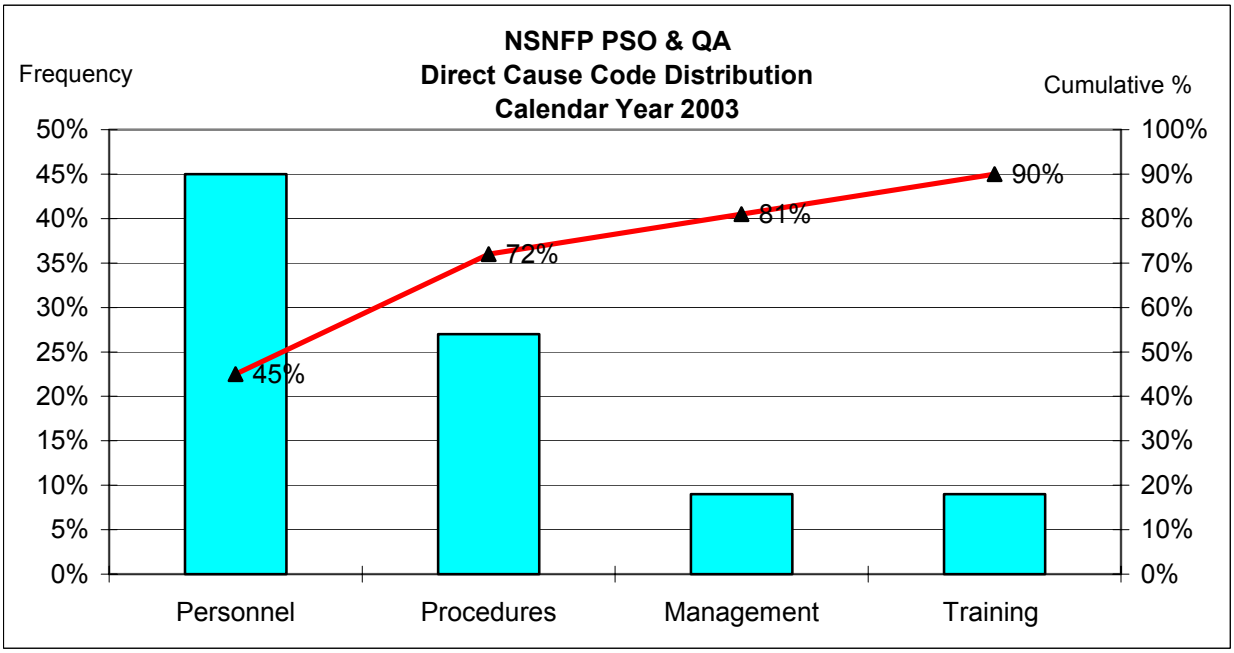
NSNFP (PSO and QAS) Direct Cause Code

Direct cause	Title	CY99	CY00	CY01	CY02	CY03
1	01-Procedures	15	14	6	6	3
2	02-Personnel	13	11	10	6	5
3	03-Management	2	3	1	3	1
4	04-Training					1
5	05-Design	1	1			1
8	08-Software	2	1			
10	10-Miscellaneous			3		
	TOTAL	**33**	**30**	**20**	**15**	**11**

NSNFP (PSO and QAS) Root Cause Code

Root cause	Title	CY99	CY00	CY01	CY02	CY03
1	01-Procedures	1				
2	02-Personnel	1				
3	03-Management	7			2	
	TOTAL	**9**			**2**	


NSNFP PSO & QA
Subject Code Distribution
Calendar Year 2003
Frequency
Cumulative %
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
45%
64%
73%
82%
91%
Procurement
QA Program
Implementing Documents
Doc Control
Records


NSNFP PSO & QA
Direct Cause Code Distribution
Calendar Year 2003
Frequency
Cumulative %
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
45%
72%
81%
90%
Personnel
Procedures
Management
Training

Hanford
Subject Codes

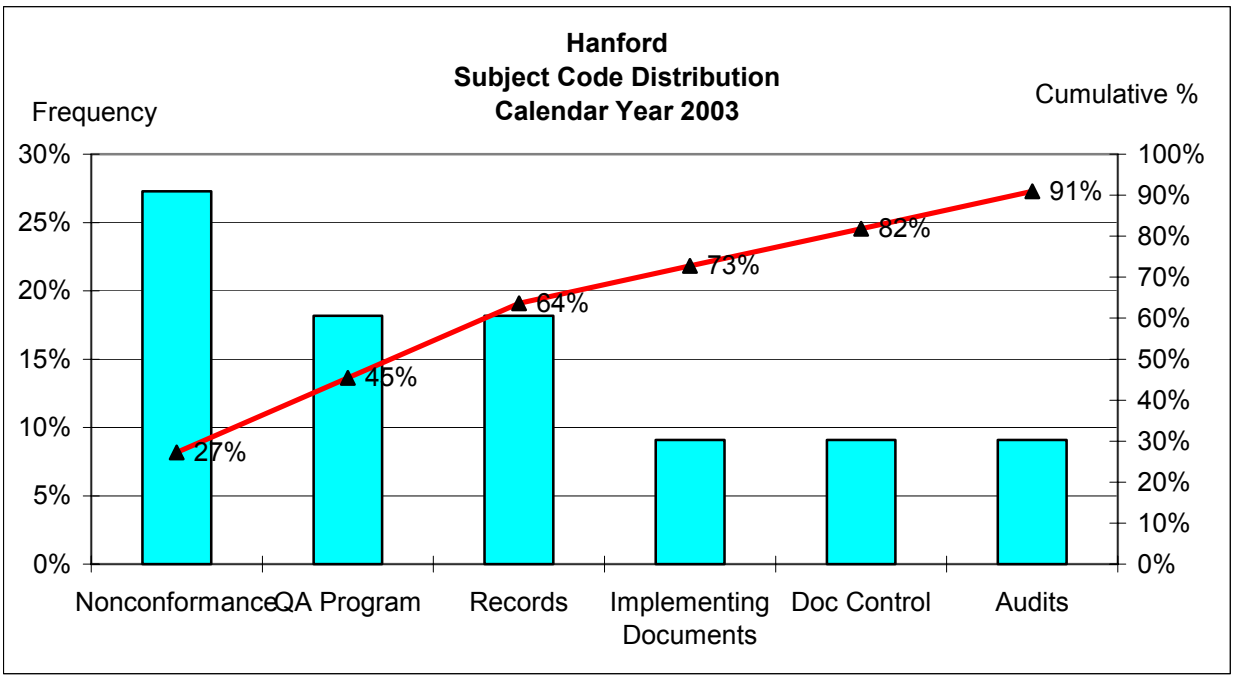
Subject Code	Title	CY99	CY00	CY01	CY02	CY03
A	Organization	1			1	
B	QA Program	5			5	2
C	Design	2			1	
D	Procurement					1
E	Implementing Documents				3	1
F	Doc Control				2	1
J	Inspection	1		2		
L	Measuring & Test	1				
O	Nonconformance	1			2	3
P	Corrective Action	1	1	2	1	
Q	Records				5	2
R	Audits				1	1
S	Software	1				
T	Sample Control	2				
U	Scientific investigation	5				
V	Electronic Data Mgt	2				
	TOTAL	**22**	**1**	**4**	**21**	**11**

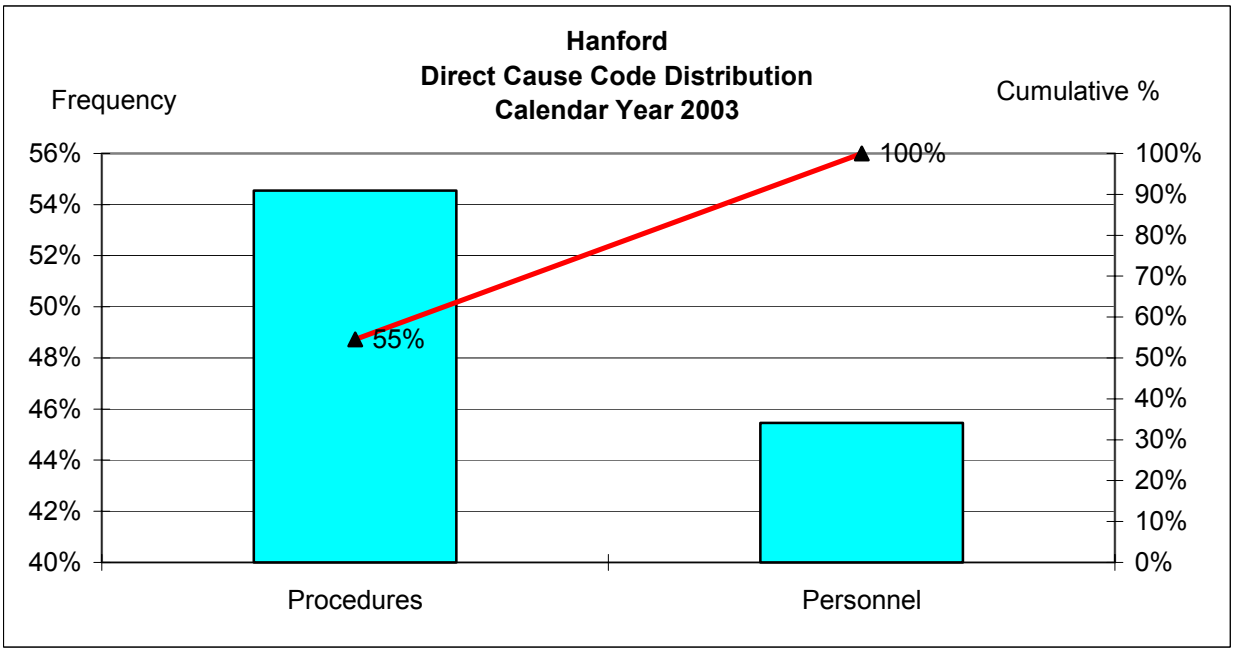
Hanford
Direct Cause Codes

Direct cause	Title	CY99	CY00	CY01	CY02	CY03
1	01-Procedures	9			8	6
2	02-Personnel	7	1	4	10	5
3	03-Management				2	
4	04-Training				1	
8	08-Software	3				
10	10-Miscellaneous	3				
	TOTAL	22	1	4	21	11

Hanford
Root Cause Codes

Root cause		CY99	CY00	CY01	CY02	CY03
1	01-Procedures	1				
3	03-Management	2				2
	TOTAL	**3**				**2**


Hanford
Subject Code Distribution
Calendar Year 2003
Frequency
Cumulative %
30%
25%
20%
15%
10%
5%
0%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
27%
45%
64%
73%
82%
91%
Nonconformance
QA Program
Records
Implementing Documents
Doc Control
Audits


Hanford
Direct Cause Code Distribution
Calendar Year 2003
Frequency
Cumulative %
56%
54%
52%
50%
48%
46%
44%
42%
40%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
55%
100%
Procedures
Personnel

INEEL
Subject Codes

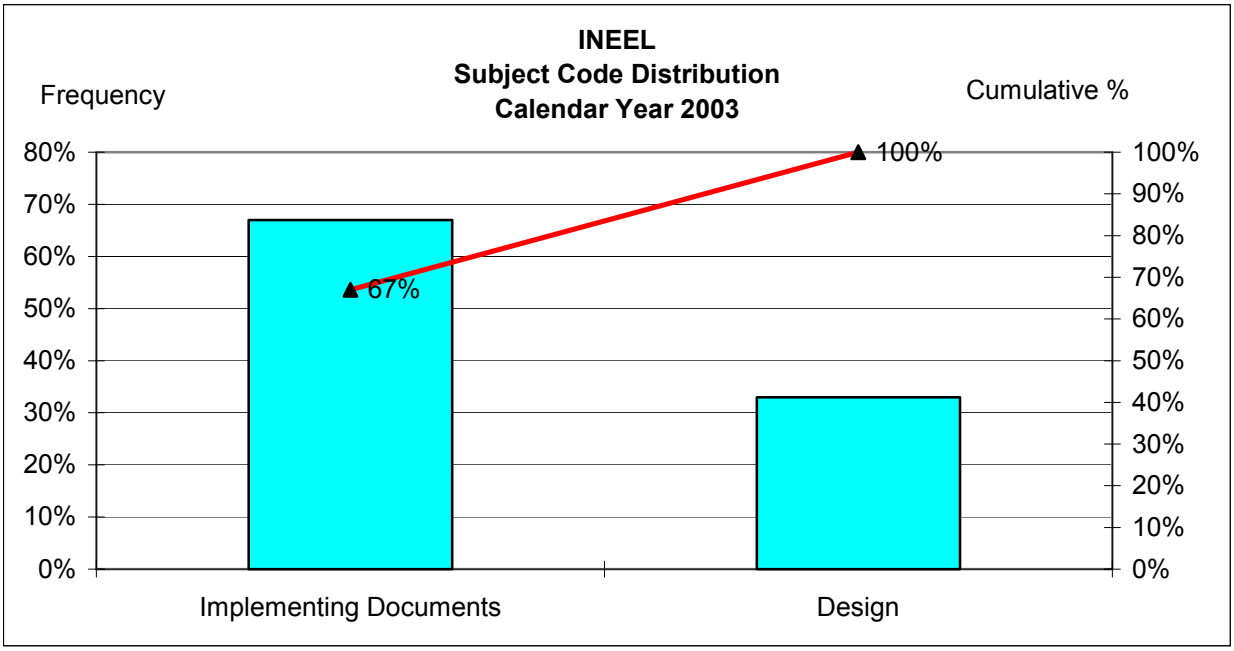
Subject Code	Title	CY98	CY99	CY00	CY01	CY02	CY03
A	Organization	1					
B	QA Program	13			1	3	2
C	Design	1				1	
E	Implementing Documents	1				2	1
F	Document Control	1					
G	Purchased items	1					
K	Test Control					1	
L	Measuring & Test	1				2	
M	Handling	1				1	
N	Inspection					1	
O	Nonconformance	1				1	
P	Corrective Action	1				2	
Q	Records	1				3	
R	Audits	1	1				
S	Software						
U	Scientific investigation						
V	Electronic Data Mgt	1					
	TOTAL	25	1		1	17	3

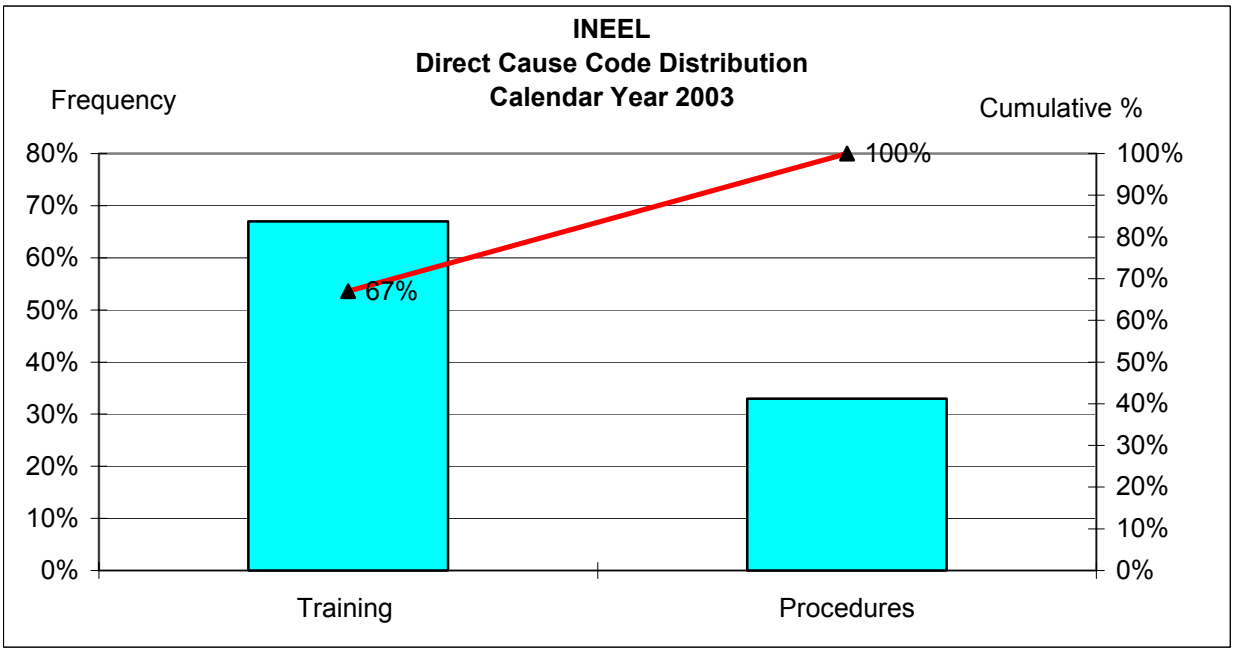
INEEL
Direct Cause Codes

Direct cause	Title	CY98	CY99	CY00	CY01	CY02	CY03
1	01-Procedures	21				4	1
2	02-Personnel	2	1		1	6	
3	03-Management					6	
4	04-Training	1					2
8	08-Software	1					
10	10-Miscellaneous					1	
	TOTAL	25	1		1	17	3

INEEL
Root Cause Codes

Root cause		CY98	CY99	CY00	CY01	CY02	CY03
1	01-Procedures	2					
3	03-Management	11					
8	08-Software	1					
4	04-Training						
	TOTAL	14					


INEEL
Subject Code Distribution
Calendar Year 2003
Frequency
Cumulative %
80%
70%
60%
50%
40%
30%
20%
10%
0%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
100%
67%
Implementing Documents
Design


INEEL
Direct Cause Code Distribution
Calendar Year 2003
Frequency
Cumulative %
80%
70%
60%
50%
40%
30%
20%
10%
0%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
100%
67%
Training
Procedures

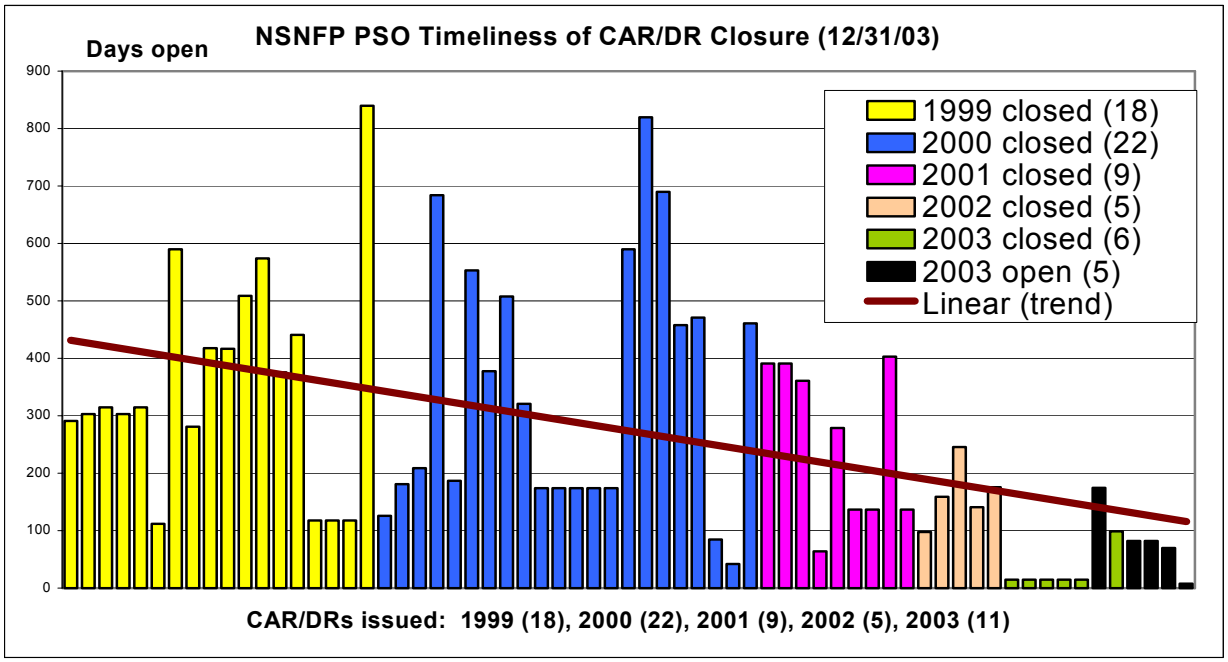
Attachment B

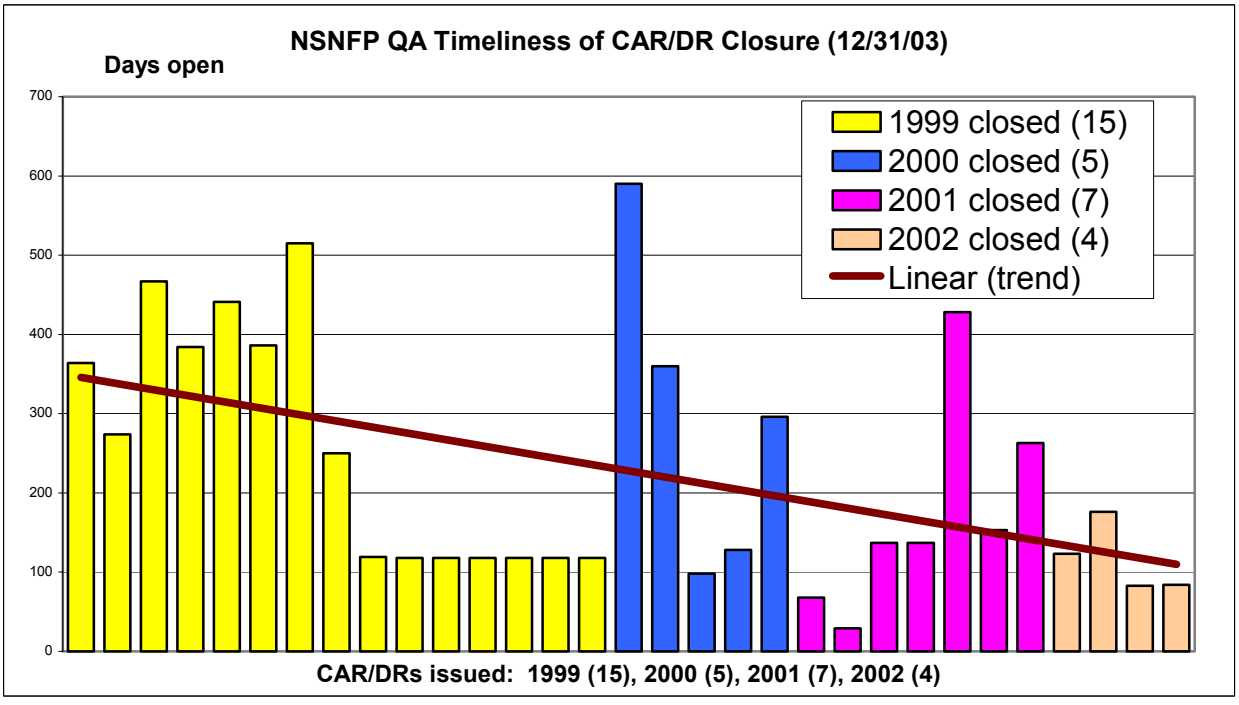
Timeliness of Deficiency Report Closure through December 31, 2003

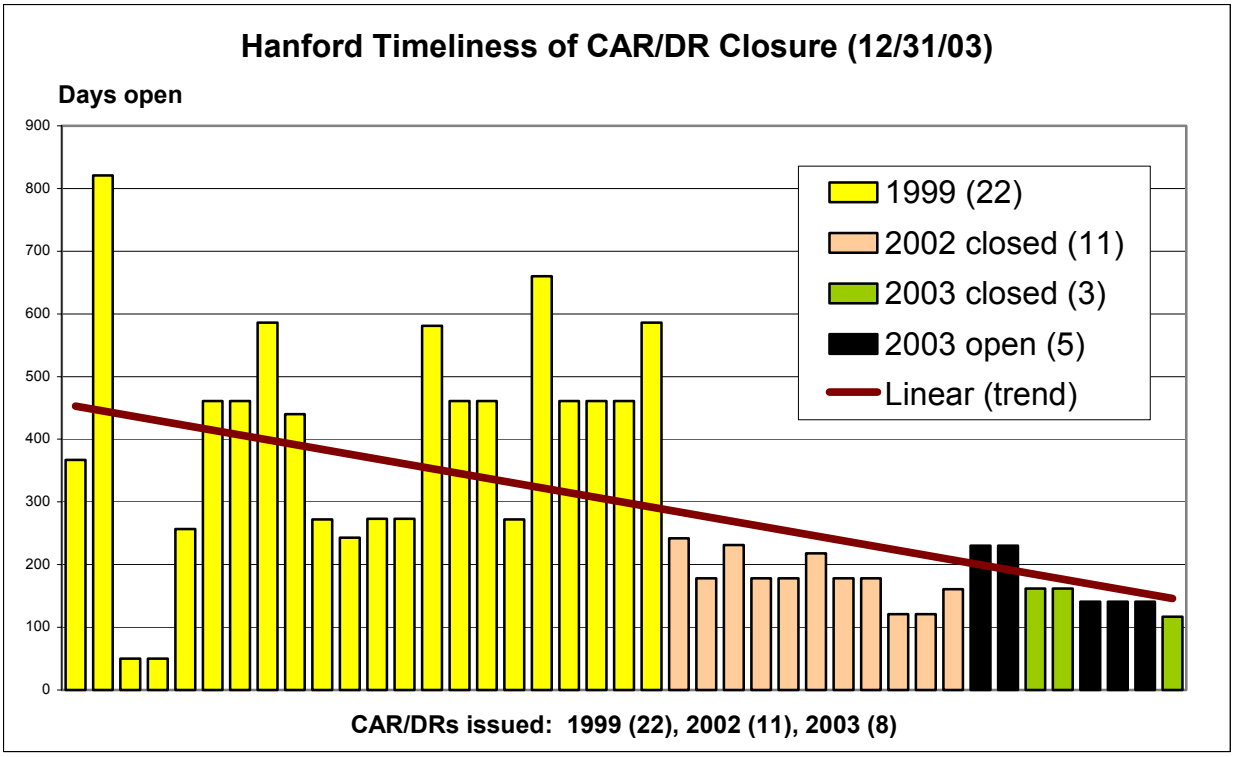
Attachment B

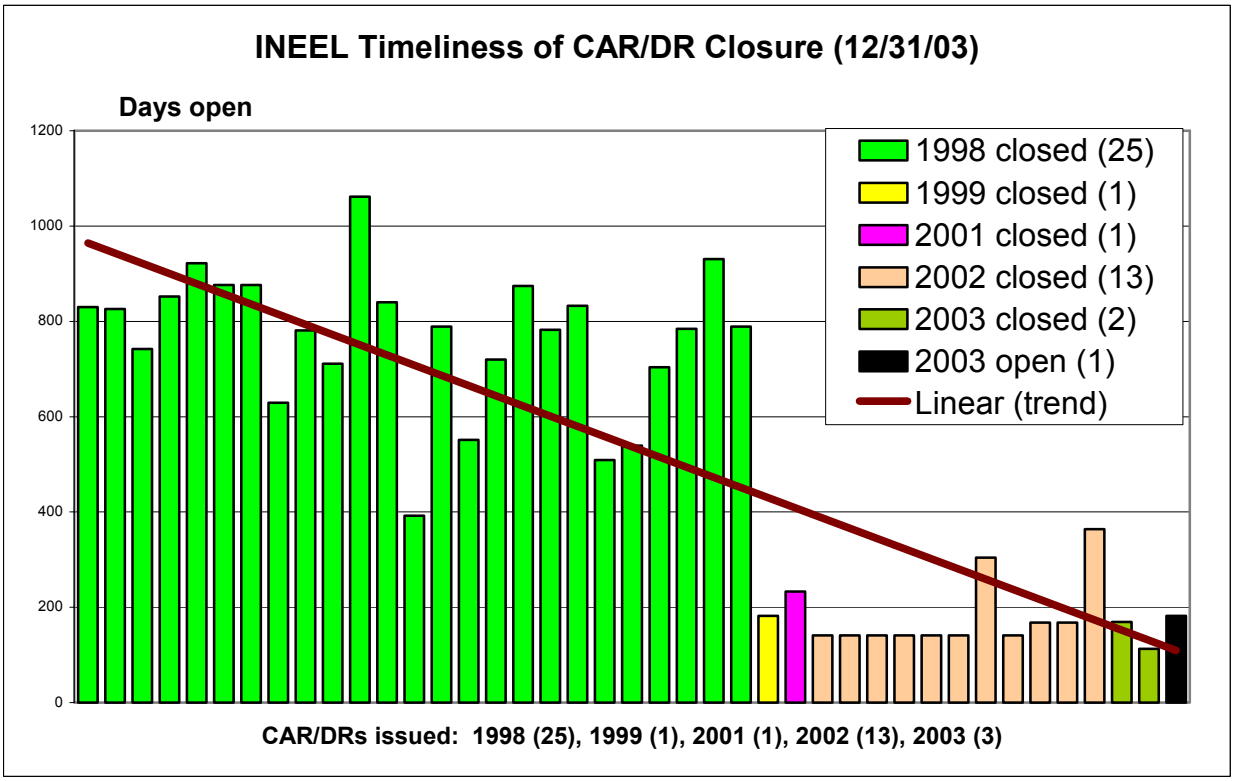
Timeliness of Deficiency Report Closure through December 31, 2003

(Open reports are indicated in black; CDAs closed during assessment are not shown)






Hanford Timeliness of CAR/DR Closure (12/31/03)
Days open
900
800
700
600
500
400
300
200
100
0
1999 (22)
2002 closed (11)
2003 closed (3)
2003 open (5)
Linear (trend)
CAR/DRs issued: 1999 (22), 2002 (11), 2003 (8)


INEEL Timeliness of CAR/DR Closure (12/31/03)
Days open
1200
1000
800
600
400
200
0
1998 closed (25)
1999 closed (1)
2001 closed (1)
2002 closed (13)
2003 closed (2)
2003 open (1)
Linear (trend)
CAR/DRs issued: 1998 (25), 1999 (1), 2001 (1), 2002 (13), 2003 (3)

Attachment C

Deficiency Reports

Attachment C

Deficiency Reports
(Status February 25, 2004)

Report	*RespOrg*	*Signif*	*Open*	*Subject*	*Direct*	*Root*	*Close*	*Days*	*Type*	*Status (2/25/04)*
99-NSNF-AU-039-001	ANL-E, CTD	F	4/6/99	B.12.2.4	02 A d		10/18/99	195	DR	closed
99-NSNF-AU-039-002	ANL-E, CTD	F	4/6/99	A.02	01 A a		10/18/99	195	DR	closed
99-NSNF-AU-039-003	ANL-E, CTD	F	4/6/99	G.11.3	02 A d		10/18/99	195	DR	closed
99-NSNF-AU-039-004	ANL-E, CTD	F	4/6/99	L.07.3	02 A d		12/15/99	253	DR	closed
99-NSNF-AU-058-001	ANL-W	F	7/29/99	G.02.1	09 B		2/23/00	209	DR	closed
99-NSNF-AU-058-002	ANL-W	F	7/29/99	G.02.1	02 A d		2/23/00	209	DR	closed
99-NSNF-AU-058-003	ANL-W	F	7/29/99	E.01	01 B g (2)		2/23/00	209	DR	closed
99-NSNF-AU-058-004	ANL-W	F	7/29/99	F.04	01 B g (2)		2/23/00	209	DR	closed
99-NSNF-AU-058-005	ANL-W	F	7/29/99	F.05.4	01 B a		2/23/00	209	DR	closed
99-NSNF-AU-058-006	ANL-W	F	7/29/99	Q.05	02 A d		2/23/00	209	DR	closed
00-ANLW-S-005-DR-001	ANL-W	F	4/5/00	B.10.7	05 B		6/20/00	76	DR	closed
99-NSNF-AU-036-003	Battelle-PNNL	F	1/21/99	U.02.2.2	02 A d		6/2/99	132	DR	closed
99-NSNF-AU-036-001	Battelle-PNNL	F	2/11/99	Q.05.1	02 A d		6/2/99	111	DR	closed
99-NSNF-AU-036-002	Battelle-PNNL	F	2/11/99	L.01.1	02 A d		6/2/99	111	DR	closed
99-NSNF-AU-036-004	Battelle-PNNL	F	2/11/99	S.01.2	08 A b		6/2/99	111	DR	closed
99-NSNF-S-059-01	HANFORD	F	6/15/99	B.01.3	01 B g (3)		6/16/00	367	DR	closed
99-NSNF-S-062-01	HANFORD	F	7/27/99	U.03	05 B b		10/25/01	821	DR	closed
99-NSNF-S-062-02	HANFORD	F	7/27/99	V.01	08 C		9/15/99	50	DR	closed
99-NSNF-S-062-03	HANFORD	F	7/27/99	T.01.3	02 A d		9/15/99	50	DR	closed
99-RL-MKH-001	HANFORD	TRUE	8/19/99	B.02.7	01 B g (2)	03 A c	5/2/00	257	CAR	closed
99-NSNF-AU-044-10-001	HANFORD	F	9/8/99	J.07.1	01 B d (2)		11/21/00	440	DR	closed
99-NSNF-AU-044-1-001	HANFORD	F	9/8/99	A.02	02 A d		6/6/00	272	DR	closed
99-NSNF-AU-044-12-001	HANFORD	F	9/8/99	L.01.1	01 B g (2)		5/8/00	243	DR	closed
99-NSNF-AU-044-15-001	HANFORD	F	9/8/99	O. 1.2	01 B d (2)		6/7/00	273	DR	closed
99-NSNF-AU-044-16-001	HANFORD	F	9/8/99	P.05	01 B d (2)		6/7/00	273	DR	closed
99-NSNF-AU-044-2-001	HANFORD	F	9/8/99	B.01.2.1	02 A d		4/11/01	581	DR	closed
99-NSNF-AU-044-2-002	HANFORD	TRUE	9/8/99	B.09	01 B d (2)	03 A c	12/12/00	461	CAR	closed
99-NSNF-AU-044-2-003	HANFORD	F	9/8/99	B.10.7	02 A d		12/12/00	461	DR	closed
99-NSNF-AU-044-3-001	HANFORD	F	9/8/99	C.01.3	05 A c (2)		12/12/00	461	DR	closed
99-NSNF-AU-044-3-002	HANFORD	F	9/8/99	C.09.1	02 A d		6/6/00	272	DR	closed
99-NSNF-AU-044-I-001-R1	HANFORD	F	9/8/99	S.01.2.1	08 A b		6/29/01	660	DR	closed
99-NSNF-AU-044-II-001	HANFORD	TRUE	9/8/99	T.02	02 A d	01 B g (1)	12/12/00	461	CAR	closed
99-NSNF-AU-044-III-001	HANFORD	F	9/8/99	U.01.1	05 A c (1)		12/12/00	461	DR	closed
99-NSNF-AU-044-III-002	HANFORD	F	9/8/99	U.01.2	02 A d		12/12/00	461	DR	closed
99-NSNF-AU-044-III-003	HANFORD	F	9/8/99	U.02.1	01 A a		12/12/00	461	DR	closed
99-NSNF-AU-044-III-004-R1	HANFORD	F	9/8/99	U.06.1.1	01 A a		4/16/01	586	DR	closed
99-NSNF-AU-044-V-001-R1	HANFORD	TRUE	9/8/99	V.01	08 D	03 A a	4/16/01	586	CAR	closed
00-RLSNF-AU-008-CDA-001	HANFORD	F	9/11/00	P.03.3	02 A d		9/11/00	0	CDA	closed
01-HANF-AU-001-CDA-002	HANFORD	F	7/27/01	P.04.2	02 A d		7/27/01	0	CDA	closed
01-RLSNF-AU-001-CDA-002	HANFORD	F	7/27/01	P.04.2	02 A d		7/27/01	0	CDA	closed
01-HANF-AU-001-CDA-001	HANFORD	F	7/31/01	J.06.2	02 A a		7/31/01	0	CDA	closed
02-RLSNF-AU-003-CDA-001	HANFORD	F	8/12/02	B.12.2.1	02 A b		8/12/02	0	CDA	closed
02-RLSNF-AU-003-CDA-002	HANFORD	F	8/12/02	E.01	02 A d		8/12/02	0	CDA	closed
02-RLSNF-AU-003-CDA-003	HANFORD	F	8/12/02	E.01	02 A d		8/12/02	0	CDA	closed
02-RLSNF-AU-003-CDA-004	HANFORD	F	8/12/02	O.04.4	04 B c		8/12/02	0	CDA	closed
02-RLSNF-AU-003-DR-001	HANFORD	F	8/12/02	A.06.1	02 A b		4/11/03	242	DR	closed
02-RLSNF-AU-003-DR-002	HANFORD	F	8/12/02	E.01	02 A b		2/6/03	178	DR	closed
02-RLSNF-AU-003-DR-003	HANFORD	F	8/12/02	B.01.3	02 A a		3/31/03	231	DR	closed
02-RLSNF-AU-003-DR-004	HANFORD	F	8/12/02	B.10.6.3	03 A c		2/6/03	178	DR	closed
02-RLSNF-AU-003-DR-005	HANFORD	F	8/12/02	F.05.2	03 A c		2/6/03	178	DR	closed
02-RLSNF-AU-003-DR-006R1	HANFORD	F	8/12/02	O. 1.2	01 A a		3/18/03	218	DR	closed
02-RLSNF-AU-003-DR-007	HANFORD	F	8/12/02	P.06	02 A d		2/6/03	178	DR	closed
02-RLSNF-AU-003-DR-008	HANFORD	F	8/12/02	R.21.2.1	02 A b		2/6/03	178	DR	closed
02-RLSNF-AU-001-CDA-001	HANFORD	F	10/8/02	B.01	01 B g (4)		10/8/02	0	CDA	closed
02-RLSNF-AU-001-CDA-002	HANFORD	F	10/8/02	B.01	01 B g (2)		10/8/02	0	CDA	closed

Report	RespOrg	Signif	Open	Subject	Direct	Root	Close	Days	Type	Status (2/25/04)
02-RLSNF-AU-001-CDA-003	HANFORD	F	10/8/02	C.01	01 C d		10/8/02		CDA	closed
02-RLSNF-AU-001-CDA-004	HANFORD	F	10/8/02	Q.05.1	01 B d (2)		10/8/02		CDA	closed
02-RLSNF-AU-001-CDA-005	HANFORD	F	10/8/02	Q.06.1	01 B d (2)		10/8/02		CDA	closed
02-RLSNF-AU-001-CDA-006	HANFORD	F	10/8/02	F.03	02 A d		10/8/02		CDA	closed
02-RLSNF-AU-001-DR-001	HANFORD	F	10/8/02	Q.02.1	02 A d		2/6/03		DR	closed
02-RLSNF-AU-001-DR-002	HANFORD	F	10/8/02	Q.03.6.3	01 B d (2)		2/6/03		DR	closed
02-RLSNF-AU-001-DR-003R1	HANFORD	F	10/8/02	Q.05.1.1	01 B d (2)		3/18/03		DR	closed
03-RLSNF-S-001-CAR-001	HANFORD	TRUE	5/15/03	B.01	01 B g (2)	03 A c			CAR	OPEN
03-RLSNF-S-001-CAR-002	HANFORD	TRUE	5/15/03	B.01.2.2	01 B g (2)	03 A c			CAR	OPEN
03-RLSNF-S-001-DR-001	HANFORD	F	5/15/03	Q.03.6	02 A a		10/24/03	162	DR	closed
03-RLSNF-S-001-DR-002	HANFORD	F		Q.02.4.1	02 A a		10/24/03	162		closed
03-RLSNF-AU-001-CDA-001	HANFORD	F		E.01	02 A a		8/12/03	0		closed
03-RLSNF-AU-001-CDA-002	HANFORD	F		F.05.3	01 B		8/12/03	0	CDA	closed
03-RLSNF-AU-001-CDA-003	HANFORD	F	8/12/03	O.02.1	02 A b		8/12/03	0	CDA	closed
03-RLSNF-AU-001-DR-001	HANFORD	F	8/12/03	D.02.1	01 B d (2)				DR	OPEN
	HANFORD		8/12/03	O. 1.2					DR	OPEN
	HANFORD		8/12/03	O.05					DR	OPEN
	HANFORD		8/13/03	R.01.5			12/8/03		DR	closed
98-NSNF-AU-034-001	INEEL-SNF	TRUE	10/22/98	A.02	01 B g (1)	03 A d	1/29/01	830	CAR	closed
98-NSNF-AU-034-002	INEEL-SNF	TRUE	10/22/98	B.01	01 B d (2)	03 A c	1/25/01	826	CAR	closed
98-NSNF-AU-034-003	INEEL-SNF	TRUE	10/22/98	B.02	01 B g (2)	03 A c	11/2/00	742	CAR	closed
98-NSNF-AU-034-004	INEEL-SNF	F	10/22/98	B.05	02 A d		4/25/00	551	DR	closed
98-NSNF-AU-034-005	INEEL-SNF	TRUE	10/22/98	B.05	01 B d (2)	01 B c	2/20/01	852	CAR	closed
98-NSNF-AU-034-006	INEEL-SNF	F	10/22/98	B.06	02 A d		10/11/00	720	DR	closed
98-NSNF-AU-034-007	INEEL-SNF	F	10/22/98	B.07	01 A a		3/14/01	874	DR	closed
98-NSNF-AU-034-008	INEEL-SNF	F	10/22/98	B.11	01 A a		12/12/00	782	DR	closed
98-NSNF-AU-034-009	INEEL-SNF	TRUE	10/22/98	B.12	04 C a	03 A c	5/1/01	922	CAR	closed
98-NSNF-AU-034-010	INEEL-SNF	F	10/22/98	C	01 B e		2/1/01	833	DR	closed
98-NSNF-AU-034-011	INEEL-SNF	F	10/22/98	B.01.3	01 B d (2)		3/14/00	509	DR	closed
98-NSNF-AU-034-012	INEEL-SNF	F	10/22/98	B.01.2	01 B g (2)		4/13/00	539	DR	closed
98-NSNF-AU-034-013	INEEL-SNF	TRUE	10/22/98	E.01	01 B g (2)	03 C	3/16/01	876	CAR	closed
98-NSNF-AU-034-014	INEEL-SNF	TRUE	10/22/98	F	01 B g (3)	03 A c	3/16/01	876	CAR	closed
98-NSNF-AU-034-015	INEEL-SNF	F	10/22/98	G.06.3.4	01 B g (2)		9/25/00	704	DR	closed
98-NSNF-AU-034-016	INEEL-SNF	F	10/22/98	B.01.2	01 B g (3)		12/14/00	784	DR	closed
98-NSNF-AU-034-017	INEEL-SNF	TRUE	10/22/98	L.01.6	01 B g (2)	03 A c	7/12/00	629	CAR	closed
98-NSNF-AU-034-018	INEEL-SNF	F	10/22/98	M.01	01 B g (2)		5/10/01	931	DR	closed
98-NSNF-AU-034-019	INEEL-SNF	TRUE	10/22/98	O.01	01 B d (2)	03 A c	12/11/00	781	CAR	closed
98-NSNF-AU-034-020	INEEL-SNF	TRUE	10/22/98	P	01 B g (2)	03 A f	10/2/00	711	CAR	closed
98-NSNF-AU-034-021	INEEL-SNF	TRUE	10/22/98	Q	01 B g (3)	01 A a	9/18/01	1062	CAR	closed
98-NSNF-AU-034-022	INEEL-SNF	TRUE	10/22/98	R.03	01 B g (2)	03 A f	2/8/01	840	CAR	closed
98-NSNF-AU-034-023	INEEL-SNF	F	10/22/98	B.01.2.2	08 A b		12/19/00	789	DR	closed
98-NSNF-AU-034-024	INEEL-SNF	TRUE	10/22/98	B.01.2	01 B g (2)	03 A b	11/18/99	392	CAR	closed
98-NSNF-AU-034-025	INEEL-SNF	TRUE	10/22/98	V.01	01 B g (2)	08 C	12/19/00	789	CAR	closed
99-NSNF-S-051-001	INEEL-SNF	F	6/21/99	R.06.3	02 A d		12/20/99	182	DR	closed
01-INEEL-S-005-DR-001	INEEL-SNF	F	5/1/01	B.12.1.4	02 A		12/20/01	233	DR	closed
02-INEEL-AU-001-CDA-001	INEEL-SNF	F	9/16/02	K.01.4	02 A b		9/16/02	0	CDA	closed
02-INEEL-AU-001-CDA-002	INEEL-SNF	F	9/16/02	Q.03.4	02 A b		9/16/02	0	CDA	closed
02-INEEL-AU-001-CDA-003	INEEL-SNF	F	9/16/02	Q.05.1	02 A d		9/16/02	0	CDA	closed
02-INEEL-AU-001-CDA-004	INEEL-SNF	F	9/16/02	C.05.1	02 A a		9/16/02	0	CDA	closed
02-INEEL-AU-001-CDA-005	INEEL-SNF	F	9/16/02	N.01.1	03 A c		9/16/02	0	CDA	closed
02-INEEL-AU-001-DR-001	INEEL-SNF	F	9/16/02	B.11.2	01 D		2/4/03	141	DR	closed
02-INEEL-AU-001-DR-002	INEEL-SNF	F	9/16/02	B.01.3.1.1	03 A c		2/4/03	141	DR	closed
02-INEEL-AU-001-DR-003	INEEL-SNF	F	9/16/02	Q.02.1.1	01 B d (2)		2/4/03	141	DR	closed
02-INEEL-AU-001-DR-004	INEEL-SNF	F	9/16/02	B.01.2.1	10 C		2/4/03	141	DR	closed
02-INEEL-AU-001-DR-005R1	INEEL-SNF	F	9/16/02	E.01	03 A c		2/4/03	141	DR	closed
02-INEEL-AU-001-DR-006	INEEL-SNF	F	9/16/02	O.03.1	02 A a		2/4/03	141	DR	closed
02-INEEL-AU-001-DR-007	INEEL-SNF	F	9/16/02	P.03.2	03 A c		7/17/03	304	DR	closed
02-INEEL-AU-001-DR-008	INEEL-SNF	F	9/16/02	P.03.2	03 A f		2/4/03	141	DR	closed
02-INEEL-AU-001-DR-009	INEEL-SNF	F	9/16/02	L.03.2.1	02 A b		3/3/03	168	DR	closed
02-INEEL-AU-001-DR-010	INEEL-SNF	F	9/16/02	L.03.2.2.1	03 A f		3/3/03	168	DR	closed
02-INEEL-AU-001-DR-011	INEEL-SNF	F	9/16/02	G.03.5	01 B g (2)		9/15/03	364	DR	closed
02-SUPP-S-007-CDA-001	INEEL-SNF	F	11/13/02	E.01	01 B a		11/13/02	0	CDA	closed
03-INEEL-AU-001-DR-001	INEEL-SNF	F	7/2/03	B.12.1.5	04 A		12/18/03	169	DR	closed

Report	RespOrg	Signif	Open	Subject	Direct	Root	Close	Days	Type	Status (2/25/04)
03-INEEL-AU-001-DR-002	INEEL-SNF	F	7/2/03	E.01	01 A		10/23/03	113	DR	closed
03-INEEL-AU-001-DR-003	INEEL-SNF	F	7/2/03	B.12.1.1	04 B a			238	DR	OPEN
99-NSNF-S-064-001	JMI	F	8/10/99	S.06.3	08 A b		3/21/00	224	DR	closed
99-NSNF-S-064-002	JMI	F	8/10/99	E.01	02 A d		3/21/00	224	DR	closed
01-JMI-AU-004-CDA-001	JMI	F	10/4/01	B.12.2.4	02 A		10/4/01	0	CDA	closed
01-JMI-AU-004-DR-001	JMI	F	10/5/01	E.01	03 A b		6/24/02	262	DR	closed
99-NSNF-AU-035-001	LMES-OR-Y12	F	12/23/98	B.12.2.4	01		3/18/99	85	DR	closed
99-NSNF-AU-035-002	LMES-OR-Y12	F	12/23/98	G.02.1	01 B d (1)		3/18/99	85	DR	closed
99-NSNF-AU-035-003	LMES-OR-Y12	F	12/23/98	L.07	09 B		3/18/99	85	DR	closed
99-NSNF-AU-035-004	LMES-OR-Y12	F	12/23/98	L.01.5	01 A d		3/18/99	85	DR	closed
99-NSNF-AU-035-005	LMES-OR-Y12	F	12/23/98	E.01	01 A a		3/18/99	85	DR	closed
99-NSNF-AU-035-006	LMES-OR-Y12	F	12/23/98	Q.11.1	02 A d		3/18/99	85	DR	closed
99-NSNF-AU-035-007	LMES-OR-Y12	F	12/23/98	B.05.6	01 B g (4)		3/18/99	85	DR	closed
99-NSNF-QAMA-001	NSNF QA	TRUE	7/20/99	A.03	03 F a	03 A	7/18/00	364	CAR	closed
EKO-QAT-9901	NSNF QA	F	8/17/99	P.06.3	08 D		5/17/00	274	DR	closed
99-NSNF-AU-125-003	NSNF QA	F	9/1/99	Q.02	02 A d		12/11/00	467	DR	closed
99-NSNF-AU-125-005	NSNF QA	F	9/1/99	B.12	01 B g (2)		9/19/00	384	DR	closed
99-NSNF-AU-125-006	NSNF QA	F	9/1/99	B.01.3.1.1	03 A c		11/15/00	441	DR	closed
99-NSNF-AU-125-007	NSNF QA	F	9/1/99	E.05	02 A d		9/21/00	386	DR	closed
99-NSNF-FSV-CK-002	NSNF QA	F	9/17/99	E.03.2	01 B g (2)		2/13/01	515	DR	closed
99-ARC04-9/99-001/RW DR#D-083	NSNF QA	F	10/7/99	E.01	02 A d		2/3/00	119	DR	closed
99-ARC04-9/99-003/RW DR#D-085	NSNF QA	F	10/7/99	E.03	02 A d		2/2/00	118	DR	closed
99-ARC04-9/99-005/RW DR#D-087	NSNF QA	F	10/7/99	E.01	02 A d		2/2/00	118	DR	closed
99-ARC04-9/99-006/RW DR#D-088	NSNF QA	F	10/7/99	E.01	02 A d		2/2/00	118	DR	closed
99-ARC04-9/99-007/RW DR#D-089	NSNF QA	F	10/7/99	F.07.2.2	01 B d (2)		2/2/00	118	DR	closed
99-ARC04-9/99-008/RW DR #D-090	NSNF QA	F	10/7/99	R.08.5	02 A d		2/2/00	118	DR	closed
99-ARC04-9/99-009/RW DR#D-091	NSNF QA	F	10/7/99	E.01	02 A d		2/2/00	118	DR	closed
99-ARC-04-9/99-011/RW CAR #C-005	NSNF QA	TRUE	10/7/99	Q.02.2	02 A d	02 A	6/13/00	250	CAR	closed
00-NSNF-AU-011-DR-005	NSNF QA	F	6/19/00	P.03.2	03 A f		1/30/02	590	DR	closed
00-RW-08/31/00-DR-002	NSNF QA	F	10/17/00	B.01.2.4	03 A d		10/12/01	360	DR	closed
00-RW-08/31/00-DR-004	NSNF QA	F	10/17/00	Q.03.7	02 A d		1/23/01	98	DR	closed
00-RW-08/31/00-DR-005	NSNF QA	F	10/17/00	P.06.2	01 B g (2)		2/22/01	128	DR	closed
00-RW-08/31/00-DR-006	NSNF QA	F	10/17/00	R.01.6	03 A d		8/9/01	296	DR	closed
01-NSNF-S-006-CDA-001	NSNF QA	F	12/18/00	Q.02.2	02 A d		12/18/00	0	CDA	closed
01-NSNF-S-006-DR-002	NSNF QA	F	1/24/01	B.12.1.2	01 B g (4)		4/2/01	68	DR	closed
01-NSNF-S-006-DR-003	NSNF QA	F	1/24/01	E.01	02 A d		2/22/01	29	DR	closed
01-NSNFP-AU-001-CDA-002	NSNF QA	F	9/6/01	B.01.3.3	01 B d (1)		9/6/01	0	CDA	closed
01-NSNFP-AU-001-DR-002	NSNF QA	F	9/17/01	B.01.2.1	02 A d		2/1/02	137	DR	closed
01-NSNFP-AU-001-DR-003	NSNF QA	F	9/17/01	E.01	02 A d		2/1/02	137	DR	closed
01-NSNFP-AU-001-DR-005	NSNF QA	F	9/17/01	G.03.4	02 A d		11/19/02	428	DR	closed
RW EM-01-D-144	NSNF QA	F	10/4/01	R.01.1	01 C f		3/6/02	153	DR	closed
RW EM-01-D-145	NSNF QA	F	10/4/01	P.04.2	03 B a		6/24/02	263	DR	closed
02-NSNF-AU-001-CDA-003	NSNF QA	F	5/30/02	B.01.1	03 A		5/30/02	0	CDA	closed
02-NSNF-AU-001-DR-001	NSNF QA	F	5/30/02	A.03.2	01 C		9/30/02	123	DR	closed
EM-ARC-02-10/ EM(0)-03-D-004	NSNF QA	F	10/17/02	U.06.3.2	01 A a		4/11/03	176	DR	closed
EM-ARC-02-10/ EM(0)-03-D-005	NSNF QA	F	10/17/02	G.06.3.4	02 A d		1/8/03	83	DR	closed
EM-ARC-02-10/ EM(0)-03-D-007	NSNF QA	F	10/17/02	P.04.5.2	02 A d		1/9/03	84	DR	closed
03-NSNF-S-001-CDA-001	NSNF QA	F	12/6/02	B.12.1.2	02 A c		12/6/02	0	CDA	closed
03-NSNF-S-005-CDA-001	NSNF QA	F	5/7/03	Q.08.1.1	02 A b		5/7/03	0	CDA	closed
99-NSNF-S-123-001	NSNFP	F	6/28/99	B.03	01 B d (2)		4/14/00	291	DR	closed
99-NSNF-S-123-002	NSNFP	TRUE	6/28/99	C.04.5.1.3	01 B d (2)	03 A c	4/26/00	303	CAR	closed
99-NSNF-S-123-003	NSNFP	F	6/28/99	E.01	02 A d		5/8/00	315	DR	closed
99-NSNF-S-127-01	NSNFP	F	6/28/99	B.03	01 B f		4/26/00	303	DR	closed
99-NSNF-S-127-02	NSNFP	F	6/28/99	S.02	08 A b		5/8/00	315	DR	closed
99-NSNF-S-127-03	NSNFP	F	6/28/99	B.10.6.3	01 C f		10/18/99	112	DR	closed
99-NSNF-S-127-04	NSNFP	TRUE	6/28/99	V.01	01 A a	03 D	2/7/01	590	CAR	closed
99-NSNF-QAMA-002	NSNFP	TRUE	7/20/99	C.01.4	05 A b	03 A c	4/26/00	281	CAR	closed
99-NSNF-AU-125-001	NSNFP	TRUE	7/21/99	D.01.3.1.1	01 B g (3)	03 A a	9/11/00	418	CAR	closed
99-NSNF-AU-125-004	NSNFP	F	7/22/99	B.01.2.3	01 B g (4)		9/11/00	417	DR	closed
99-NSNF-S-126-001	NSNFP	F	7/29/99	E.01	02 A d		12/19/00	509	DR	closed
99-NSNF-S-126-002	NSNFP	F	7/29/99	D.01.2.3	02 A d		2/22/01	574	DR	closed
99-NSNF-AU-125-002	NSNFP	TRUE	9/1/99	D.01.3.3.1	01 B g (1)	03 A a	9/11/00	376	CAR	closed
99-NSNF-AU-125-008	NSNFP	F	9/1/99	D.01.2.3	01 B		11/15/00	441	DR	closed

Report	RespOrg	Signif	Open	Subject	Direct	Root	Close	Days	Type	Status (2/25/04)
99-ARC04-9/99-002/RW DR#D-084	NSNFP	F	10/7/99	C.02.1	02 A d		2/2/00	118	DR	closed
99-ARC04-9/99-004/RW DR#D-086	NSNFP	F	10/7/99	B.12.1	01 B d (2)		2/2/00	118	DR	closed
99-ARC04-9/99-010/RW DR#D-092	NSNFP	F	10/7/99	S.06.1.1	01 B g (3)		2/2/00	118	DR	closed
99-NSNF-S-132-001	NSNFP	TRUE	10/12/99	G.02.1	01 B	01 B h	1/29/02	840	CAR	closed
00-NSNF-S-005-001	NSNFP	TRUE	1/31/00	B.03	02 A		6/5/00	126	CAR	closed
00-NSNF-S-003-1	NSNFP	F	2/24/00	D.01.6	05 B a		8/23/00	181	DR	closed
00-NSNF-S-008-DR-001	NSNFP	F	3/16/00	E.01	02 A d		10/11/00	209	DR	closed
00-NSNFP-03/13-DR-001	NSNFP	F	3/17/00	F.07.1.1	02 A d		1/30/02	684	DR	closed
00-NSNFP-S-018-DR-001	NSNFP	F	3/31/00	B.12.1.2	01 B g (2)		10/4/00	187	DR	closed
00-NSNFP-S-009-DR-001	NSNFP	F	4/27/00	S.01.1	02 A d		11/1/01	553	DR	closed
00-NSNF-S-009-DR-002	NSNFP	F	4/27/00	S.06.2.2	01 B g (4)		5/10/01	378	DR	closed
00-NSNF-S-009-DR-003	NSNFP	F	4/27/00	S.01.1	01 B g (2)		9/17/01	508	DR	closed
00-NSNFP-05/09-DR-001	NSNFP	F	5/11/00	S.07	08 A c		3/28/01	321	DR	closed
00-SUPP-AU-009-DR-001	NSNFP	F	6/7/00	E.01	01 B		11/28/00	174	DR	closed
00-SUPP-AU-009-DR-002	NSNFP	F	6/7/00	B.12.1.2	01 B		11/28/00	174	DR	closed
00-SUPP-AU-009-DR-003	NSNFP	F	6/7/00	D.01.3.3.2	01 B		11/28/00	174	DR	closed
00-SUPP-AU-009-DR-004	NSNFP	F	6/7/00	A.02	01 B		11/28/00	174	DR	closed
00-SUPP-AU-009-DR-005	NSNFP	F	6/7/00	J.09.1	01 B		11/28/00	174	DR	closed
00-NSNF-AU-011-DR-001	NSNFP	F	6/19/00	A.01	01 B		1/30/02	590	DR	closed
00-NSNF-AU-011-DR-002	NSNFP	F	6/19/00	B.01.2	02 A d		9/17/02	820	DR	closed
00-NSNF-AU-011-DR-003	NSNFP	F	6/19/00	B.12.1	01 B g (4)		5/10/02	690	DR	closed
00-NSNF-AU-011-DR-004	NSNFP	F	6/19/00	D.01	02 A		9/20/01	458	DR	closed
00-NSNF-S-006-CDA-001	NSNFP	F	10/3/00	Q.02.2	02 A d		10/3/00	0	CDA	closed
00-NSNF-S-006-DR-001	NSNFP	F	10/17/00	E.03.1	01 A a		1/31/02	471	DR	closed
00-RW-08/31/00-DR-001	NSNFP	F	10/17/00	R.02.6	01 B g (2)		1/10/01	85	DR	closed
00-RW-08/31/00-DR-003	NSNFP	F	10/17/00	F.05.3	01 B g (2)		11/28/00	42	DR	closed
01-NSNF-S-004-CDA-001	NSNFP	F	12/19/00	B.12.1.4	02 A d		12/19/00	0	CDA	closed
01-NSNF-S-004-DR-001	NSNFP	F	12/19/00	C.01.4	02 A d		3/25/02	461	DR	closed
01-QAMA-9/18-DR-001	NSNFP	F	1/5/01	B.01.2.1	10 A		1/31/02	391	DR	closed
01-QAMA-9/18-DR-002	NSNFP	F	1/5/01	B.12.2	10 A		1/31/02	391	DR	closed
01-NSNF-S-002-DR-001	NSNFP	F	1/21/01	F.05.4	10 C		1/17/02	361	DR	closed
01-NSNF-S-006-DR-001	NSNFP	F	1/24/01	F.05.1	01 B g (4)		3/29/01	64	DR	closed
01-NSNF-S-009-CDA-001	NSNFP	F	4/26/01	Q.05.1.1	02 A d		4/26/01	0	CDA	closed
01-NSNF-S-009-CDA-002	NSNFP	F	4/26/01	Q.02.2	02 A d		4/26/01	0	CDA	closed
01-NSNF-S-009-DR-001	NSNFP	F	5/3/01	Q.08.1.1	01 B g (4)		2/6/02	279	DR	closed
01-NSNFP-AU-001-CDA-001	NSNFP	F	9/5/01	A.03.2.6	01 B d (1)		9/5/01	0	CDA	closed
01-NSNFP-AU-001-DR-001	NSNFP	F	9/17/01	A.01	02 A d		2/1/02	137	DR	closed
01-NSNFP-AU-001-DR-004	NSNFP	F	9/17/01	E.01	02 A d		2/1/02	137	DR	closed
01-NSNFP-AU-001-DR-006	NSNFP	F	9/17/01	B.01.2	02 A d		10/25/02	403	DR	closed
01-NSNFP-AU-001-DR-007	NSNFP	F	9/17/01	E.01	02 A d		2/1/02	137	DR	closed
02-NSNF-S-001-CDA-001	NSNFP	F	1/22/02	G.06.3.5	02 A a		1/22/02	0	CDA	closed
02-NSNF-AU-001-CAR-001	NSNFP	TRUE	5/30/02	G.02.1	01 C	03 A f	1/31/03	246	CAR	closed
02-NSNF-AU-001-CDA-001	NSNFP	F	5/30/02	K.05.3	02 A b		5/30/02	0	CDA	closed
02-NSNF-AU-001-CDA-002	NSNFP	F	5/30/02	E.05	01 C		5/30/02	0	CDA	closed
02-NSNF-AU-001-DR-002	NSNFP	F	5/30/02	A.03.2.1	01 B		9/5/02	98	DR	closed
02-NSNF-AU-001-DR-003	NSNFP	F	5/30/02	B.06	03 A		11/5/02	159	DR	closed
02-NSNF-AU-001-CAR-002R1	NSNFP	TRUE	8/21/02	A.03.2.1	03 A d	03 A d	1/9/03	141	CAR	closed
02-SUPP-S-006-CDA-001	NSNFP	F	10/8/02	F.05.3	02 A b		10/8/02	0	CDA	closed
EM-ARC-02-10/ EM(0)-03-D-006	NSNFP	F	10/17/02	V.01.3	01 A a		4/11/03	176	DR	closed
BQA-FS-03-04-DR-001	NSNFP	F	2/11/03	D.03.1	04 B e		2/26/03	15	DR	closed
BQA-FS-03-04-DR-002	NSNFP	F	2/11/03	D.02.3	02 A		2/26/03	15	DR	closed
BQA-FS-03-04-DR-003	NSNFP	F	2/11/03	E.03.3.1	01 B c		2/26/03	15	DR	closed
BQA-FS-03-04-DR-004	NSNFP	F	2/11/03	B.05.6	02 A b		2/26/03	15	DR	closed
BQA-FS-03-04-DR-005	NSNFP	F	2/11/03	B.05.4	01 B a		2/26/03	15	DR	closed
03-NSNFP-07/09-DR-001	NSNFP	F	7/9/03	C.01.2	02 A d			231	DR	OPEN
03-NSNFP-08/14-DR-001	NSNFP	F	8/14/03	F.05.3	03 A c		11/21/03	99	DR	closed
03-NSNFP-10/09-DR-001	NSNFP	F	10/10/03	D.01.3	01 B d (2)			138	DR	OPEN
03-SUPP-S-001-DR-001	NSNFP	F	10/10/03	B.12.1	03 B d			138	DR	OPEN
03-NSNFP-10/22-DR-001	NSNFP	F	10/22/03	D.01.6	05 B a			126	DR	OPEN
04-NSNF-S-001-DR-001	NSNFP	F	12/23/03	D.01.3	02 A d			64	DR	OPEN
98-NSNF-AU-120-001	OAK RIDGE	F	12/23/98	R.01.5	03 F a		9/30/99	281	DR	closed
01-ORNL-AU-001-CDA-02	OAK RIDGE	F	12/7/00	R.21.2.1	02 A b		12/7/00	0	CDA	closed
01-ORNL-AU-001-CDA-1	OAK RIDGE	F	12/7/00	Q.01.1.7	01 B d (2)		12/7/00	0	CDA	closed

Report	*RespOrg*	*Signif*	*Open*	*Subject*	*Direct*	*Root*	*Close*	*Days*	*Type*	*Status (2/25/04)*
02-ORNL-AU-001-DR-001	OAK RIDGE	F	9/18/02	F.06.2	02 A b		10/3/02	15	DR	closed
98-NSNF-S-033-2	SRS	F	9/17/98	R.07.6	02 A d		3/9/99	173	DR	closed
98-NSNF-S-033-1	SRS	F	10/5/98	Q.01.1	01 B		9/27/99	357	DR	closed
99-NSNF-AU-068-1	SRS	F	9/16/99	B.04.1	01 B d (2)		2/23/00	160	DR	closed
99-NSNF-AU-068-10	SRS	F	9/16/99	Q.03.6	08 D		8/30/00	349	DR	closed
99-NSNF-AU-068-11	SRS	F	9/16/99	R.04.1.2	01 C g		2/23/00	160	DR	closed
99-NSNF-AU-068-12	SRS	F	9/16/99	U.01.1	01 B g (2)		2/23/00	160	DR	closed
99-NSNF-AU-068-2	SRS	F	9/16/99	B.05.1	01 B g (2)		2/23/00	160	DR	closed
99-NSNF-AU-068-3	SRS	F	9/16/99	C.01.3	01 B g (2)		8/8/00	327	DR	closed
99-NSNF-AU-068-4	SRS	TRUE	9/16/99	D.01	01 B g (2)	03 A a	8/30/00	349	CAR	closed
99-NSNF-AU-068-5	SRS	F	9/16/99	E.02.1	01 B h		8/8/00	327	DR	closed
99-NSNF-AU-068-6	SRS	F	9/16/99	E.03	01 B g (2)		8/8/00	327	DR	closed
99-NSNF-AU-068-7	SRS	F	9/16/99	F.01	01 B g (3)		2/23/00	160	DR	closed
99-NSNF-AU-068-8	SRS	F	9/16/99	G.02.1	09 B		8/8/00	327	DR	closed
99-NSNF-AU-068-9	SRS	F	9/16/99	Q.01	08 A a		8/30/00	349	DR	closed
01-SRS-AU-001-DR-1	SRS	F	11/8/00	B.12.1.2	02 A d		4/2/02	510	DR	closed
01-SRS-AU-001-DR-10	SRS	F	11/8/00	R.01.5	02 A d		11/13/01	370	DR	closed
01-SRS-AU-001-DR-11	SRS	F	11/8/00	S.05.2.1.1	02 A d		5/30/01	203	DR	closed
01-SRS-AU-001-DR-12	SRS	F	11/8/00	T.04.3	02 A d		5/30/01	203	DR	closed
01-SRS-AU-001-DR-13	SRS	F	11/8/00	U.02.2.1	01 B d (2)		5/30/01	203	DR	closed
01-SRS-AU-001-DR-2	SRS	F	11/8/00	B.12.2	02 A d		4/2/02	510	DR	closed
01-SRS-AU-001-DR-3	SRS	F	11/8/00	B.01.2	02 A d		6/6/01	210	DR	closed
01-SRS-AU-001-DR-4	SRS	F	11/8/00	F.06.2	10 C		5/30/01	203	DR	closed
01-SRS-AU-001-DR-5	SRS	F	11/8/00	L.03.2	02 A d		6/6/01	210	DR	closed
01-SRS-AU-001-DR-6	SRS	F	11/8/00	L.02	02 A d		6/6/01	210	DR	closed
01-SRS-AU-001-DR-7	SRS	F	11/8/00	P.06.2	01 B g (1)		5/30/01	203	DR	closed
01-SRS-AU-001-DR-8	SRS	F	11/8/00	P.01	01 B d (2)		11/14/01	371	DR	closed
01-SRS-AU-001-DR-9	SRS	F	11/8/00	P.05	01 B d (2)		5/30/01	203	DR	closed
01-SRS-02/22/01-CAR-001	SRS	TRUE	3/7/01	E.01	02 A d	01 C g	4/2/02	391	CAR	closed

General Notes

Report Identification of Deficiency Report, Corrective Action Report, or Condition Corrected during Audit.

Resp Org Organization responsible for correcting the condition.

ANL-E, CTD	Argonne National Laboratory - East, Chemical Technology Division
ANL-W	Argonne National Laboratory - West, Idaho Falls, ID
Battelle-PNNL	Battelle - Pacific Northwest National Laboratory, Richland, WA
HANFORD	Hanford Site Operations, Richland, WA
INEEL-SNF	Idaho National Engineering & Environmental Laboratory, Spent Nuclear Fuel Group
JMI	John Marvin Inc., West Richland, WA
LMES-OR-Y12	Lockheed Martin Energy Systems, Oak Ridge, Y12 Facility
NSNF QA	National Spent Nuclear Fuel Program Quality Assurance Group
NSNFP	National Spent Nuclear Fuel Program Support Organization
OAK RIDGE	Oak Ridge Site Operations
SRS	Savannah River Site

Signif Significant condition adverse to quality as defined by procedure QAS 16.02.

Open Date of NSNFP QAPM approval for issuance.

Subject Subject code based on the QARD requirement violated.

Direct Direct cause code based on the direct cause of the condition identified in the report. Attachment D lists the cause codes used by QAS 16.03.

Root (For CARs only) Root cause code based on the root cause of the condition identified in the report. Attachment D lists the cause codes used by QAS 16.03.

Close Date of NSNFP QA Program Manager (QAPM) approval for closure.

Days Duration in number of days the deficiency report remains open until verified as closed by the NSNFP QAPM. This is computed as the difference between the open and closure dates. For reports that have not been closed, the number of days open is based on February 25, 2004, when this report was prepared.

Type Identifies the type of deficiency:
DR denotes a deficiency report for a condition adverse to quality
CAR denotes a significant condition adverse to quality
CDA denotes a condition corrected during the audit or surveillance.

Status Identifies the status of the deficiency (closed or open) as of February 25, 2004, when this report was prepared. The data analyses and trend charts were based on the status at the end of the calendar year (December 31, 2003).

Attachment D

Cause Codes

Attachment D—Cause Codes

Code	Description
01	PROCEDURES/IMPLEMENTING DOCUMENTS
01 A	Procedure not used
01 A a	No/incomplete documents/procedure
01 A b	Lost/missing documents/procedure
01 A c	Procedure difficult to use
01 A d	Procedure not available or inconvenient to use
01 A e	Procedure use not required but should be
01 B	Inadequate/wrong procedure
01 B a	Typographical error
01 B b	Sequence wrong
01 B c	Technical facts/data wrong
01 B d	Requirements:
01 B d (1)	updates not incorporated
01 B d (2)	not covered/addressed
01 B e	Wrong documents/procedure used
01 B f	Wrong revision used
01 B g	Implementing documents/process:
01 B g (1)	not adequate/can't be followed
01 B g (2)	incomplete
01 B g (3)	does not exist
01 B g (4)	Does not describe HOW the requirement will be implemented
01 B h	Conflicting instructions
01 C	Error in following the procedure
01 C a	Format confusing
01 C b	More than one action per step
01 C c	Multiple references
01 C d	No signoff space
01 C e	Checklist misused
01 C f	Information/Data/Computation wrong or incomplete
01 C g	Ambiguous instructions
01 C h	Inadequate limits/parameters
01 D	Self imposed requirement - not needed for QARD compliance
02	PERSONNEL - HUMAN PERFORMANCE
02 A	Lack of attention to a task
02 A a	Carelessness
02 A b	Oversight
02 A c	Work overload
02 A d	Procedure not used, or used improperly
02 A e	Wrong revision used
02 A f	Lack of direction
02 B	Lack of Qualification
03	MANAGEMENT SYSTEM
03 A	Standards, Policies, Administrative Controls (SPAC)
03 A a	No SPAC
03 A b	SPAC not used
03 A c	Inadequate communication of SPAC
03 A d	SPAC Recently changed
03 A e	Inadequate drawings/prints
03 A f	Inadequate accountability
03 B	Immediate supervision
03 B a	Inadequate job/task analysis
03 B b	No preparation/planning
03 B c	Inadequate selection of performer(s)
03 B c (1)	Individual not qualified
03 B c (2)	Team selection not balanced/adequate
03 B d	Performers not trained
03 B e	No supervision during work
03 B f	Infrequent task
03 C	Communications
03 D	No/late communication
03 E	Misunderstood verbal communication
03 F	Audits/Evaluations
03 F a	No Audits/Evaluations
03 F b	Audit checklist misused
04	TRAINING
04 A	No training
04 A a	Decided not to train
04 A b	No learning objective
04 B	Lack of understanding
04 B a	Learning objectives need improvement
04 B b	Lesson plan need improvement
04 B c	Training instructions need improvement
04 B d	Testing need improvement
04 B e	Continued/Refresher training need improvement
04 C	Inadequate training methods
04 C a	Incomplete training
04 C b	Inadequate facilities
04 C c	Continuous training inadequate
04 C d	Inadequate testing or measure of aptitude
05	DESIGN/SCIENTIFIC INVESTIGATION
05 A	Design Documents/ Scientific Investigation
05 A a	Documents do not exist
05 A b	Data/computation wrong, incomplete, or less than adequate
05 A c	Requirements:
05 A c (1)	not identified
05 A c (2)	incorrectly identified
05 A d	Scientific investigation not performed per study plan
05 A e	Problems not anticipated in design or investigation
05 A f	Equipment environment not considered
05 B	Technical Review
05 B a	Review not performed
05 B b	Review inadequate
05 B c	Reviewer lack of independence
06	FABRICATION/INSTALLATION
06 A	Fabrication/installation
06 A a	Fabrication/installation error
06 A b	Fabrication/installation not per design
06 A c	Wrong sequence fabrication/installation
06 A d	Wrong material
06 A e	Defective material
06 A f	Lack of proper tools used for fabrication/installation
06 B	Quality Control
06 B a	No inspection
06 B b	Wrong inspection instructions
06 B c	Wrong inspection technique
07	RELIABILITY SYSTEM
07 A	Inadequate Preventative Maintenance
07 A a	No preventative maintenance for equipment
07 A b	Inadequate preventative maintenance for equipment
07 B	Unreliable Equipment
07 B a	Equipment past design lifetime
07 B b	Equipment repeated failure, previous corrective action inadequate
08	SOFTWARE
08 A	Computer software controls
08 A a	Inadequate software design
08 A b	Inadequate validation, verification or testing
08 A c	Defects:
08 A c (1)	Inadequate defect report
08 A c (2)	Inadequate defect resolution
08 A d	Inadequate software maintenance
08 A e	Inadequate software identification
08 B	Inadequate user information manuals
08 C	Inadequate control of usage
08 D	Inadequate data update
09	PROCUREMENT
09 A	Vendor not in the Approved Supplier List
09 B	Vendor not qualified
09 C	Receiving inspection
09 C a	No receiving inspection
09 C b	Inadequate Receiving inspection
10	MISCELLANEOUS OR MULTIPLE AREAS
10 A	Multiple Causes Present
10 B	Material/Equipment Inadequate
10 C	Unknown
10 D	Natural Causes
10 E	Planned Failure